Summary Report

Site Characterization and Removal Action for Polychlorinated Biphenyls at Building 84, Investigation Area D1 Mare Island, Vallejo, California

Prepared for

United States Environmental Protection Agency

February 2004

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February 27, 2004

Ms. Paula Bisson
United States Environmental Protection Agency
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San Francisco, CA 94105

Subject: Site Characterization and Removal Action for Polychlorinated Biphenyls at Building 84, Investigation Area D1, Mare Island, Vallejo, California

Dear Ms. Bisson:

Enclosed is the Site Characterization and Removal Action for Polychlorinated Biphenyls at Building 84 Summary Report. CH2M HILL prepared this document in compliance with the Consent Agreement/Final Order (CA/FO) between United States Environmental Protection Agency (USEPA) and the United States Department of the Navy, with the City of Vallejo and Lennar Mare Island (LMI) as intervenors. The CA/FO sets forth the polychlorinated biphenyl (PCB)-related requirements that must be met to satisfy the Toxic Substances Control Act (TSCA) for the Eastern Early Transfer Parcel (EETP) of Mare Island. The purpose of this document is to obtain USEPA concurrence that a no further action (NFA) determination under TSCA is appropriate for Building 84 with respect to PCB contamination as part of the overall regulatory closure process for the EETP of Mare Island.

Please submit your approval of NFA at this Building 84 PCB site to me at the above address or via e-mail at jmorris1@ch2m.com by March 26, 2004. If you have any questions regarding this site, please contact Carla Duncan at 775/329-7238, extension 220.

Sincerely,

CH2M HILL

Carla Duncan
for

Jeffery C. Morris, PE

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Contents

Acronyms and Abbreviations

AL	Assessment Location
CA/FO	Consent Agreement/Final Order
DTSC	Department of Toxic Substances Control
EETP	Eastern Early Transfer Parcel
IA	Investigation Area
LMI	Lennar Mare Island
µg/100 cm^2	micrograms per 100 square centimeters
mg/kg	milligrams per kilogram
Navy	United States Department of the Navy
NFA	no further action
PCB	polychlorinated biphenyls
TSCA	Toxic Substances Control Act
TWD	Technical Work Document
USEPA	United States Environmental Protection Agency

1.0 Introduction

This report provides a summary of the polychlorinated biphenyl (PCB) cleanup action inside Building 84 within Investigation Area (IA) D1 on the Mare Island Eastern Early Transfer Parcel (EETP). CH2M HILL prepared this summary report in compliance with the Consent Agreement and Final Order (CA/FO) between United States Environmental Protection Agency (USEPA) and the United States Department of the Navy (Navy), with the City of Vallejo and Lennar Mare Island (LMI) as intervenors (USEPA et al. 2001). The CA/FO sets forth the PCB-related requirements that must be met to satisfy the Toxic Substances Control Act (TSCA) for the EETP of Mare Island.

Pursuant to Paragraph 6(a) of the CA/FO, the purpose of this report is to demonstrate that no further action (NFA) under TSCA is appropriate with respect to PCB contamination as part of the overall regulatory closure process of the EETP for Building 84. The CH2M HILL cleanup action consisted of asphalt floor removal and soil excavation. The cleanup action was conducted in accordance with the USEPA-approved "Notification Regarding Self-implementing On-site Cleanup and Disposal of Polychlorinated Biphenyl Remediation Waste Inside Building 84 in Investigation Area D1, Eastern Early Transfer Parcel, Mare Island, Vallejo, California" (Notification) (CH2M HILL 2003a). The objectives of this cleanup action were achieved, and the remaining PCB concentrations at this site meet the criteria for permanent site closure.

The rest of this document is divided as follows: Section 2.0 provides a description of the site background and previous sampling efforts; Section 3.0 provides a description of the cleanup action performed at Building 84 in January 2004, including a description of the excavation and verification sampling results. Section 4.0 provides rationale for site closure; Section 5.0 provides conclusions for this document; and Section 6.0 provides references used in the preparation of this summary report.

2.0 PCB Site Identification and Background

Building 84 is located in the residential land-use area within IA D1 (LMI 2000). Figure 2-1 shows the PCB site locations within IA D1. (All figures located at the end of each section) Building 84 was the marine prison built in 1890. This building is located west of Suisun Avenue and south of Mesa Road (Figure 2-1). Building 84 is currently vacant but is considered a high-occupancy site. One PCB site at Building 84 is listed in the Consent Agreement signed April 16, 2001 between LMI, the City of Vallejo, and the State of California Environmental Protection Agency, Department of Toxic Substances Control (LMI et al. 2001); this site is identified as Building 84 Assessment Location (AL)#01 (ground floor). This report provides the information to support an NFA determination at Building 84 AL#01.

As described in the approved Notification (CH2M HILL 2003a), the Navy completed several sampling events and cleanup actions at Building 84 AL#01 (concrete pad scabbling and soil excavation) (SSPORTS 1995, 1997, 1998a-b). Figure 2-2 shows the previous cleanup action areas and sample locations at this site prior to the cleanup action performed by CH2M HILL during January 2004. Table 2-1 provides the sample numbers, matrix, sample dates, and total PCB concentrations detected during site characterization investigations and verification sampling events (the laboratory reporting limit is given when PCBs were not detected). All samples were analyzed for PCBs using USEPA Methods SW8080, SW8081, or SW8082.

The maximum PCB concentrations detected in ground floor stain-specific samples inside Building 84 prior to the Navy cleanup actions were 23.5 milligrams per kilogram (mg/kg) and 11.3 micrograms per 100 square centimeters (µg/100 cm^2) (SSPORTS 1997). Because the Navy cleanup action level was 10 mg/kg, elevated concentrations of PCBs remained at Building 84 AL#01 following the cleanup actions (SSPORTS 1995, 1998a-b).

The Notification dated October 22, 2003 addressed the four stain-specific PCB-contaminated areas of the ground floor within the building where remaining PCB concentrations were at a concentration greater than 1 mg/kg. The PCB concentrations detected in these four areas ranged from 1.11 mg/kg to 3.77 mg/kg (SSPORTS 1997). USEPA did not approve this Notification in a letter dated November 14, 2003 and provided a comment requesting additional information regarding PCB concentrations in the non-stained area of the floor (USEPA 2003).

To address this comment, CH2M HILL personnel collected four asphalt floor samples on December 3, 2003 from non-stained areas within Building 84 (Figure 2-2). PCBs were detected in three of the four asphalt samples; the range of detected PCB concentrations was 0.102 mg/kg to 0.534 mg/kg. These data support the basis in the original Notification that the non-stained portion of the asphalt floor inside Building 84 does not contain PCBs at a concentration greater than 1 mg/kg. Therefore, the CH2M HILL cleanup action was performed as specified in the Notification (CH2M HILL 2003a). The laboratory data sheets for these samples were provided in a response to comments letter to USEPA dated December 24, 2003 (CH2M HILL 2003b). USEPA approved the cleanup plan as specified in

October 22, 2003 Notification for Building 84 in a letter dated February 18, 2004 (USEPA 2004).

Figure 2-3 shows the remaining PCB concentrations at Building 84 AL#01 prior to the January 2004 cleanup action. A summary of the January 2004 cleanup action performed to remove the areas with remaining PCB concentrations that exceed 1 mg/kg is provided in Section 3.0.

TABLE 2-1
Sample Results for Building 84 AL#01 Prior to January 2004 Cleanup Action
PCB Sites, Lennar Mare Island, Vallejo, California

PCB Site Name	Site Description	Sample Number	Sample Matrix	Sample Date	PCB Concentration	Comments
Building 84 AL#01	Floor of the building	4357-0001	Asphalt	2/22/95	0.653 mg/kg	Stain-specific sample location
		4357-0002	Asphalt	2/22/95	1.11 mg/kg	Stain-specific sample location
		4357-0007	Asphalt	2/22/95	1.37 mg/kg	Stain-specific sample location
		4357-0008	Asphalt	2/22/95	0.716 mg/kg	Stain-specific sample location
		4357-0030	Concrete	2/22/95	11.3 µg/100 cm²	Stain-specific sample location; Removed per TWD 95-0070 (SSPORTS 1995)
		4357-0037	Asphalt	2/22/95	3.77 mg/kg	Stain-specific sample location
		4357-0043	Concrete	2/22/95	23.5 mg/kg	Stain-specific sample location; Removed per TWD 97-1472 Revision A (SSPORTS 1998a)
		4357-0046	Asphalt	2/22/95	1.17 mg/kg	Stain-specific sample location
		4357-0047	Asphalt	2/22/95	0.113 mg/kg	Stain-specific sample location
		7006-0010	Concrete	1/7/97	8.4 mg/kg	Verification sample following TWD 95-0070; Removed per TWD 97-1472 Revision A (SSPORTS 1998a)
		7006-0011	Concrete	1/7/97	5.7 mg/kg	Verification sample following TWD 95-0070; Removed per TWD 97-1472 Revision A (SSPORTS 1998a)
		PC6303	Concrete	12/10/98	0.02 J mg/kg	Confirmation sample
		PC6304	Concrete	12/10/98	ND (< 0.036 mg/kg)	Confirmation sample
		PC6305	Concrete	12/10/98	ND (< 0.036 mg/kg)	Confirmation sample
		8-2714-CH2M	Soil	6/25/02	ND (< 0.04 mg/kg)	Replacement of verification data following TWD 95-0070; Removed per TWD 97-1472 Revision A
		8-2715-CH2M	Soil	6/25/02	ND (< 0.04 mg/kg)	Replacement of verification data following TWD 95-0070; Removed per TWD 97-1472 Revision A
		8-2716-CH2M	Soil	6/25/02	ND (< 0.04 mg/kg)	Replacement of verification data following TWD 95-0070; Removed per TWD 97-1472 Revision A
		8-2717-CH2M	Soil	6/25/02	ND (< 0.04 mg/kg)	Replacement of verification data following TWD 95-0070; Removed per TWD 97-1472 Revision A

TABLE 2-1
Sample Results for Building 84 AL#01 Prior to January 2004 Cleanup Action
PCB Sites, Lennar Mare Island, Vallejo, California

PCB Site Name	Site Description	Sample Number	Sample Matrix	Sample Date	PCB Concentration	Comments
		8-2718-CH2M	Soil	6/25/02	ND (< 0.04 mg/kg)	Replacement of verification data following TWD 95-0070; Removed per TWD 97-1472 Revision A
		8-2719-CH2M	Soil	6/25/02	ND (< 0.04 mg/kg)	Replacement of verification data following TWD 95-0070; Removed per TWD 97-1472 Revision A
		8-2720-CH2M	Soil	6/25/02	ND (< 0.04 mg/kg)	Replacement of verification data following TWD 95-0070; Removed per TWD 97-1472 Revision A
		8-2721-CH2M	Soil	6/25/02	ND (< 0.04 mg/kg)	Replacement of verification data following TWD 95-0070; Removed per TWD 97-1472 Revision A
		B84-CH100-A0	Asphalt	12/03/03	0.534 mg/kg	Not a stain-specific sample location
		B84-CH101-A0	Asphalt	12/03/03	0.102 mg/kg	Not a stain-specific sample location
		B84-CH101-DA0	Asphalt	12/03/03	ND (< 0.327 mg/kg)	Not a stain-specific sample location
		B84-CH102-A0	Asphalt	12/03/03	0.44 mg/kg	Not a stain-specific sample location

Notes:

Sample numbers beginning with PC were collected by TtEMI. Sample numbers beginning with B or ending in CH2M were collected by CH2M HILL. All other samples were collected by SSPORTS.

The following wipe and/or solid samples were collected from the floor of Building 84 on 2/22/95 and had PCB results <10 µg/100 cm^2 or <2 mg/kg: 4357-0003 through 0006 (asphalt); 4357-0009 through 0010 (painted asphalt); 4357-0011 (soil); 4357-0012 through 0013 (painted asphalt); 4357-0017 (asphalt); 4357-0018 through 0020 (painted asphalt); 4357-0021 through 0023 (asphalt); 4357-0024 through 0025 (painted asphalt); 4357-0028 (asphalt); 4357-0029 (painted concrete); 4357-0031 through 0036 (painted concrete); 4357-0038 through 0042 (painted concrete); 4357-0044 (painted concrete); 4357-0045 (painted asphalt).

AL = Assessment Location.
J = estimated concentration.
mg/kg = milligrams per kilogram.
ND = not detected (laboratory reporting limit in parentheses).
PCB = polychlorinated biphenyl.
TWD = Technical Work Document.
µg/100 cm^2 = micrograms per 100 square centimeters.

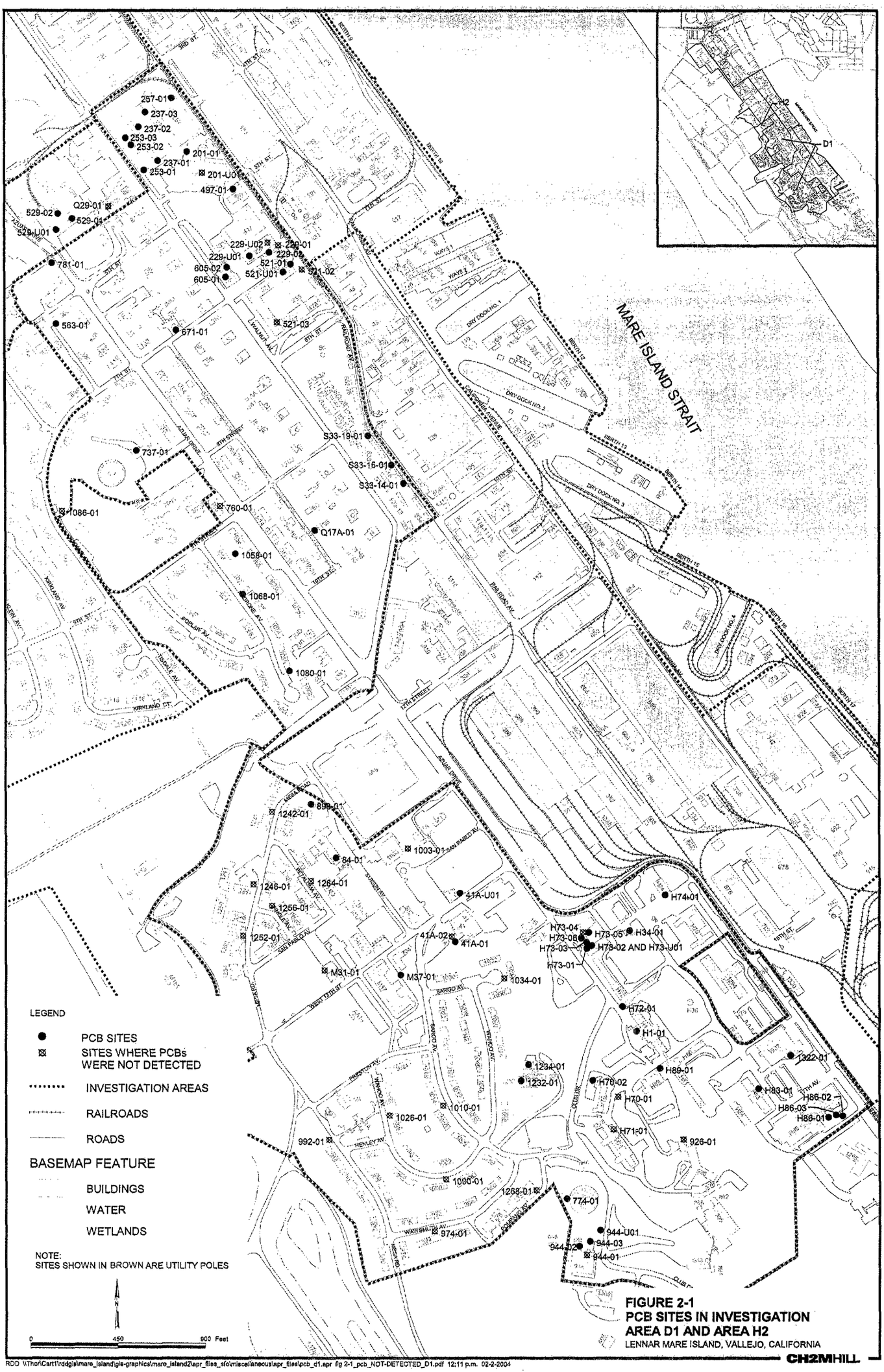

FIGURE 2-1
PCB SITES IN INVESTIGATION AREA D1 AND AREA H2
LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

CH2MHILL

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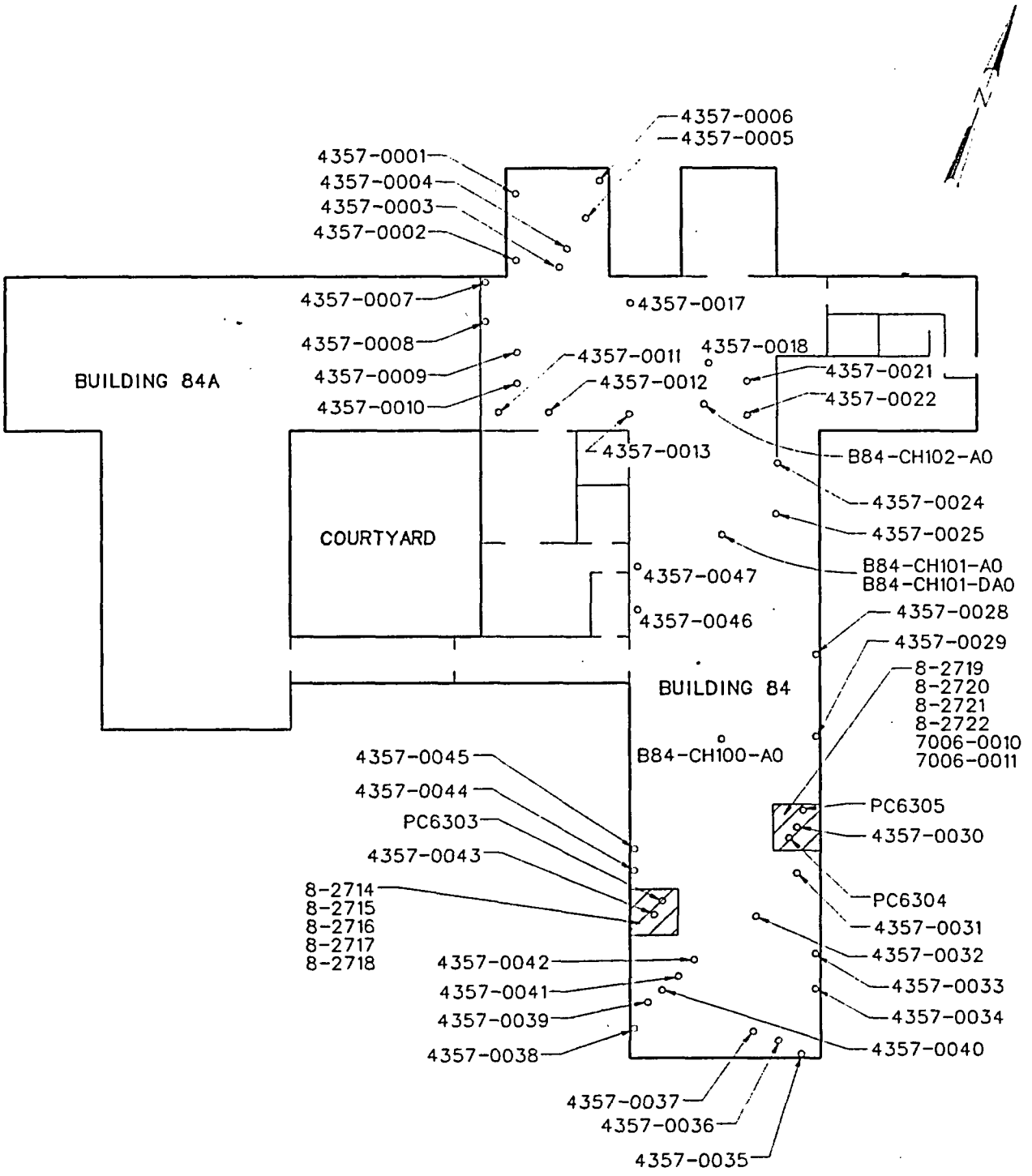

FIGURE 2-2
BUILDING 84 AL#01
PREVIOUS SAMPLE LOCATIONS
LENNAR MARE ISLAND, Vallejo, California

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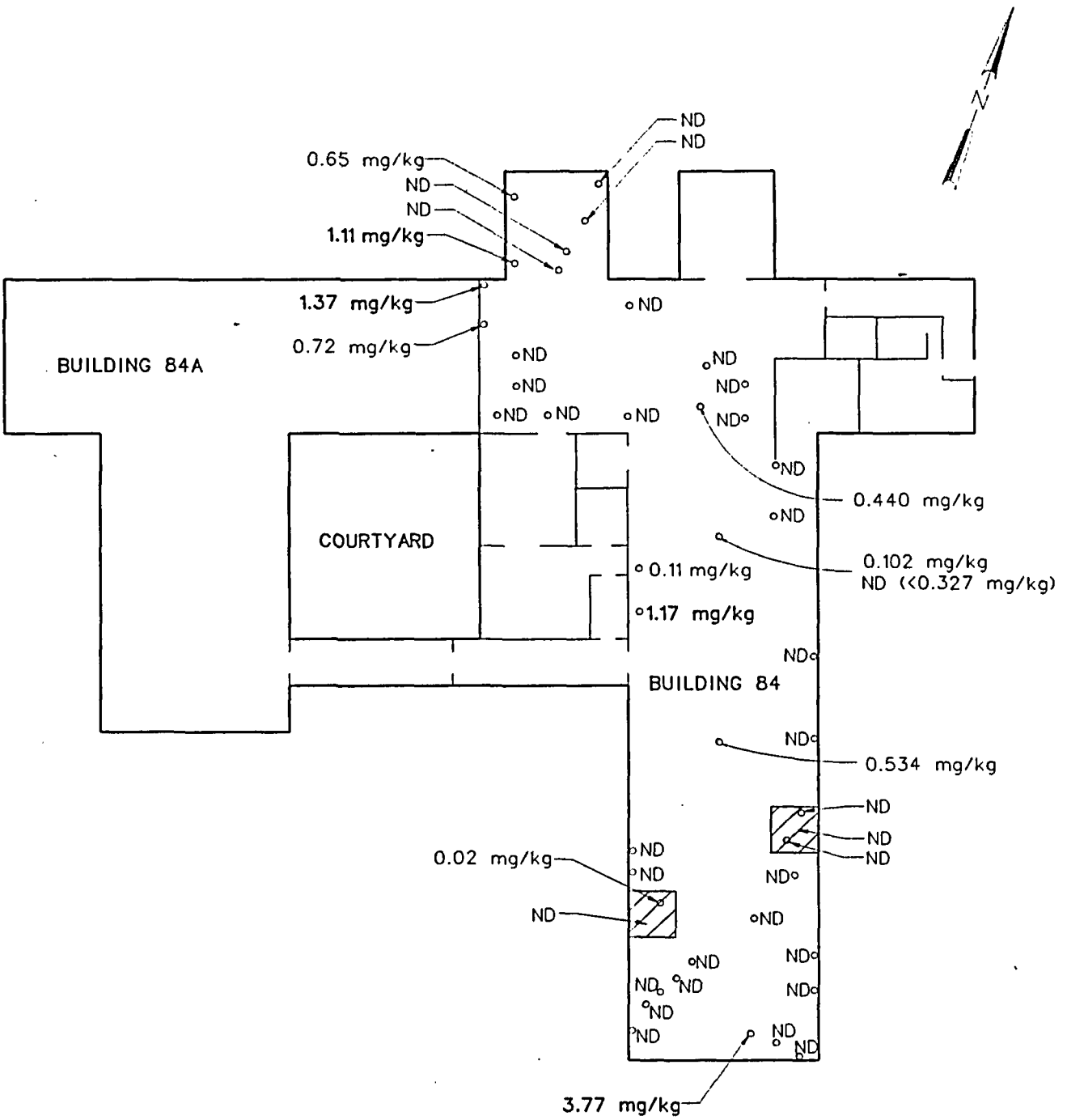

PREVIOUS CLEANUP ACTION AREAS

ND- NON DETECT

FIGURE 2-3
BUILDING 84 AL#01
REMAINING PCB CONCENTRATIONS
PRIOR TO 2004 CLEANUP ACTION
LENNAR MARE ISLAND, Vallejo, California

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3.0 2004 Cleanup Action Summary

CH2M HILL performed an excavation cleanup action (asphalt floor removal and underlying soil) on January 6 and 7, 2004 in accordance with the "Notification Regarding Self-implementing On-site Cleanup and Disposal of Polychlorinated Biphenyl Remediation Waste Inside Building 84 in Investigation Area D1, Eastern Early Transfer Parcel, Mare Island, Vallejo, California" (CH2M HILL 2003a). Prior to this cleanup action, the maximum remaining PCB concentration in the four cleanup action areas were 1.11, 1.37, 1.17, and 3.77 mg/kg at stain-specific sample locations from north to south inside Building 84 (Figure 2-3).

Figure 3-1 shows the four cleanup action areas and verification soil sample PCB concentrations at Building 84 AL#01. From north to south, the four excavation area sizes were 6 feet by 9 feet (verification sample number B84-0801-S1), 5.5 feet by 6.5 feet (verification sample number B84-0802-S1), 6 feet by 11 feet (verification sample number B84-0803-S1), and 10 feet by 10 feet (verification sample number B84-0804-S1), respectively (Figure 3-1). The dimensions of each excavation area was based on spray paint markings on the floor placed by the Navy prior to Technical Work Document (TWD) 97-1472 (SSPORTS 1998c); this TWD was not implemented by the Navy at these four locations because the cleanup goal prior to the cleanup action specified in TWD 97-1472 was changed to 10 mg/kg.

Table 3-1 provides the sample numbers, matrix, sample date, and PCB concentrations following the CH2M HILL cleanup action (the laboratory reporting limit is given when PCBs were not detected). Once the excavations were 1 foot below ground surface, one three-point composite soil sample was collected from each excavation area. PCBs were detected in three of the four excavation areas with concentrations ranging from 0.135 mg/kg to 0.903 mg/kg (Table 3-1; Figure 3-1). Appendix A includes some photos of Building 84 AL#01.

Because the composite soil sample at one of the locations (sample number B84-0802-S1) had a PCB concentration greater than the USEPA preliminary remediation goal for residential use (> 0.22 mg/kg), an additional 0.5 foot of soil was removed from this excavation area on January 22, 2004. The PCB concentration in the verification soil sample following this additional excavation was 0.078 mg/kg (sample number B84-0802-S1.5). Appendix B contains the analytical data from the verification soil sampling following the January 2004 cleanup actions.

The removed floor material and soil was placed directly into steel bins and temporarily stored on Mare Island prior to receipt of waste characterization sample results. Approximately 10 cubic yards of soil were removed from the excavation areas inside Building 84. The excavated material was transported and disposed off site to the Waste Management Altamont Landfill located in Livermore, California on February 9, 2004. Appendix C contains a copy of the waste manifests. The excavations were backfilled on February 18, 2004 with DTSC-approved clean soil from Benicia High School (1101 Military West Street, Benicia, California) and the Hiddenbrooke-Orchard Area (Vallejo, California) development areas (DTSC 2003a-b).

TABLE 3-1
Verification Soil Sample Results at Building 84 AL#01
PCB Sites, Lennar Mare Island, Vallejo, California

PCB Site Name	Site Description	Sample Number	Sample Matrix	Sample Date	PCB Concentration	Comments
Building 84 AL#01	Floor of the building	B84-0801-S1	Soil	01/08/04	0.138 mg/kg	
		B84-0802-S1	Soil	01/08/04	0.903 mg/kg	Removed
		B84-0803-S1	Soil	01/08/04	0.135 mg/kg	
		B84-0804-S1	Soil	01/08/04	ND (< 0.036 mg/kg)	
		B84-0802-S1.5	Soil	01/23/04	0.078 mg/kg	Verification sample following removal of B84-0802-S1

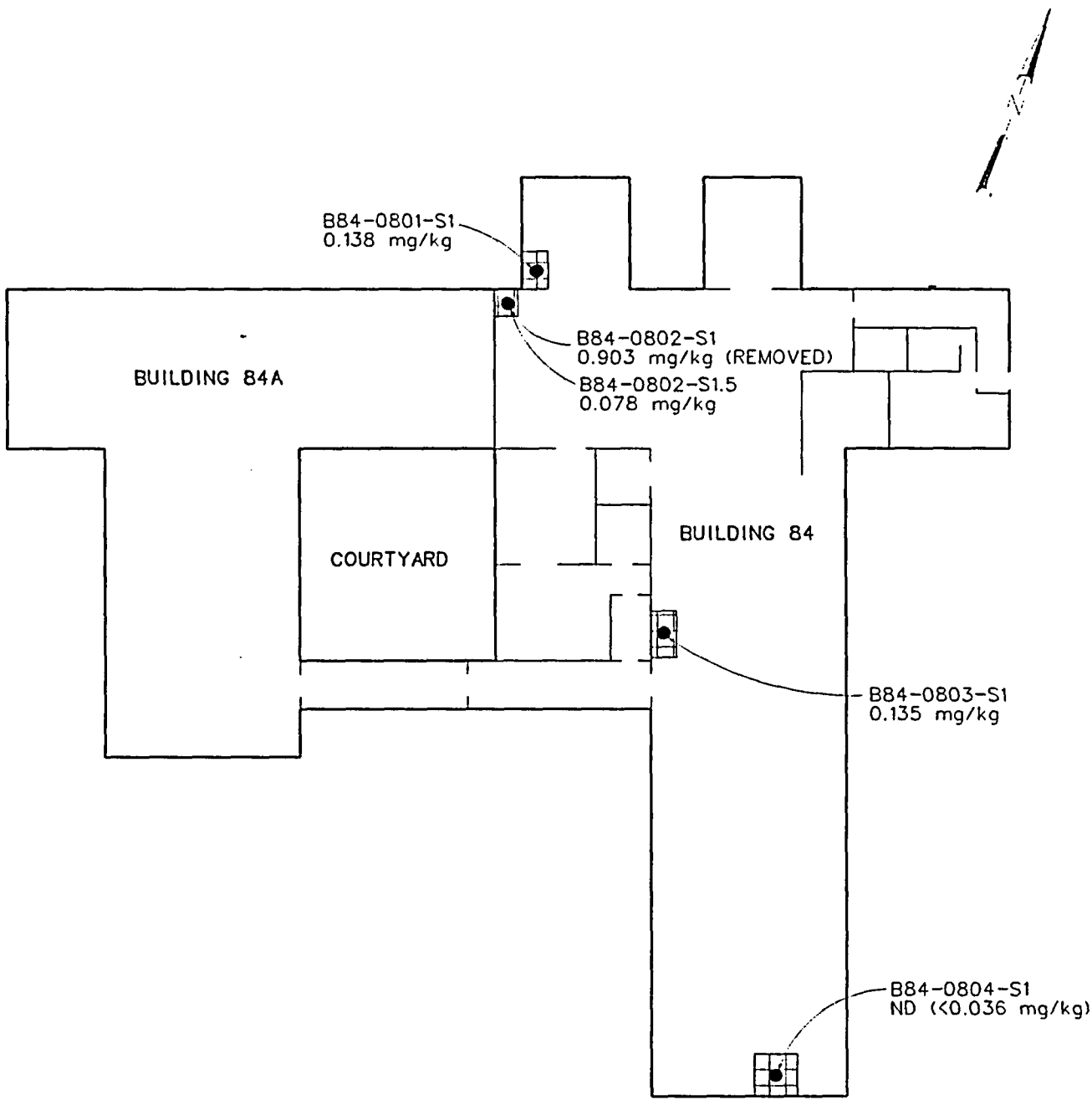
Note: The last number in the sample number designates the depth of the sample below ground surface.

AL = Assessment Location.

mg/kg = milligrams per kilogram.

ND = not detected (laboratory reporting limit in parentheses).

PCB = polychlorinated biphenyl.



CLEANUP ACTION AREA

● VERIFICATION SAMPLE LOCATION (3-POINT COMPOSITE)

FIGURE 3-1
BUILDING 84 AL#01
CLEANUP ACTION AREAS AND VERIFICATION SAMPLE LOCATIONS
LENNAR MARE ISLAND, Vallejo, California

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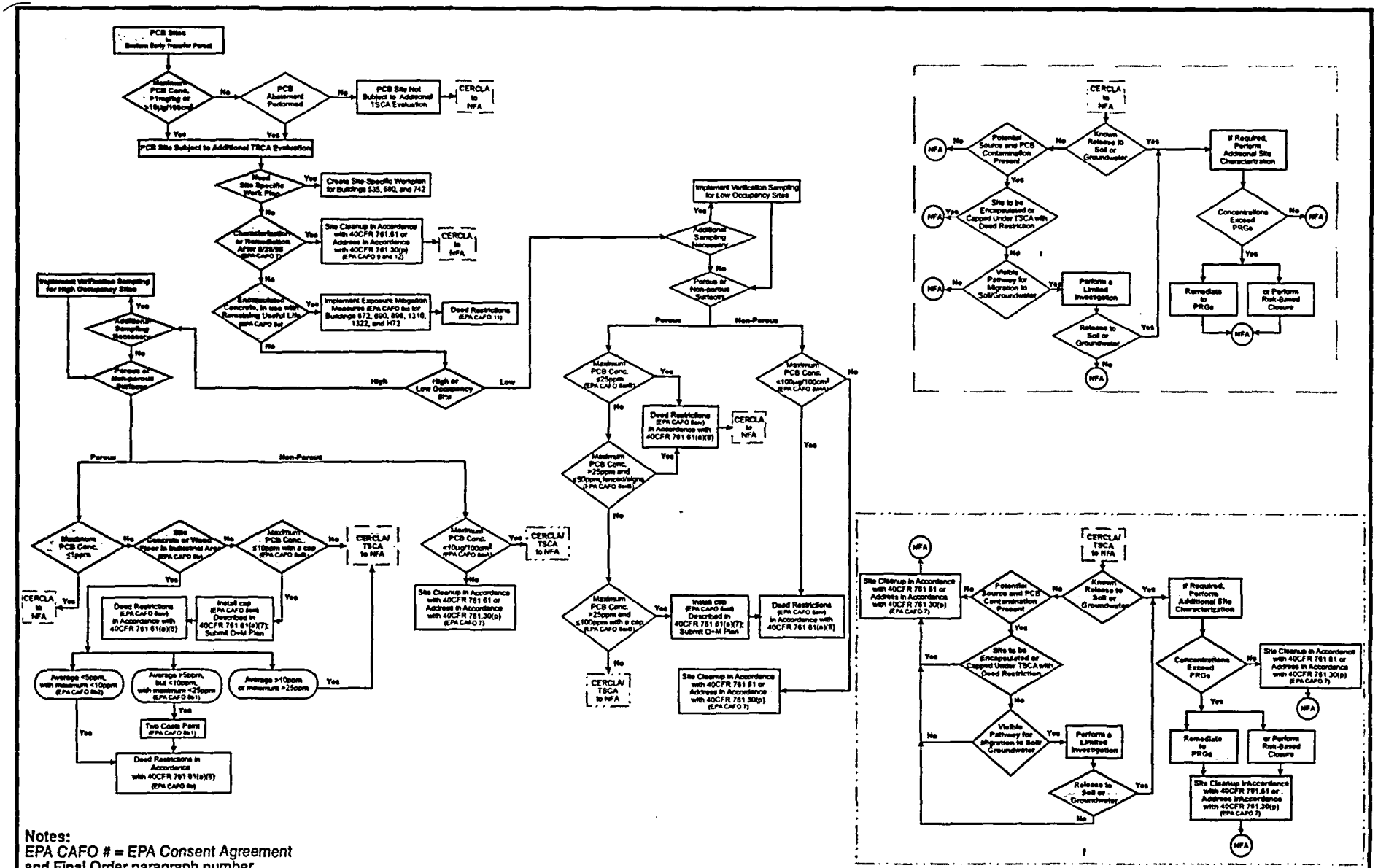
4.0 PCB Site Closure Process

The *Final Polychlorinated Biphenyl Work Plan* (CH2M HILL 2003c) presents the process for PCB site closure in accordance with the CA/FO and the TSCA regulations. This PCB site closure process is depicted in Figure 4-1, with the path for Building 84 AL#01 highlighted.

In 1995 and 1996, the Navy collected initial wipe and concrete characterization samples at Building 84 AL#01 (SSPORTS 1997). The Navy performed cleanup actions (washing, scabbling, and excavation) at the locations where PCBs were detected at concentrations exceeding 10 µg/100 cm^2 or 10 mg/kg (SSPORTS 1995, 1998a-b). In January 2004, CH2M HILL performed a cleanup action involving removal of four building floor areas and underlying soil.

No further sampling or cleanup is necessary at Building 84 AL#01. Following the CH2M HILL cleanup action at this site, PCBs were not detected above 1 mg/kg in the verification samples (Table 3-1). Therefore, the remaining PCB concentrations are less than the cleanup level for porous media in high-occupancy areas. The conditions for USEPA closure of PCB sites have been satisfied at this site (Figure 4-1). An NFA determination under TSCA at Building 84 AL#01 would be protective of human health and the environment.



Notes:
EPA CAFO # = EPA Consent Agreement and Final Order paragraph number.

NFA = No further action.

O+M = Operations and Maintenance.

PRG = Preliminary Remediation Goal.

E012004001RDD_241 (2/17/04)

FIGURE 4-1
PATH FOR PCB SITE CLOSURE
BUILDING 84 AL#01
LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

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5.0 Conclusions

During 1995 and 1998, the Navy washed, scabbled, and excavated areas within Building 84. However, the Navy used a cleanup level of 10 mg/kg. Four stain-specific areas of the building floor with PCB concentrations greater than 1 mg/kg (maximum concentration of 3.77 mg/kg) remained after the Navy actions.

During January 2004, CH2M HILL performed a building floor and soil excavation cleanup action at these four stain-specific areas. PCBs were not detected above the TSCA cleanup level for high-occupancy areas of 1 mg/kg in verification soil samples following this cleanup action.

No further sampling or cleanup actions are necessary at Building 84 AL#01. The conditions for USEPA closure of PCB sites have been satisfied at this site (Figure 4-1). The remaining concentrations of PCBs in the Building 84 ground floor are less than 1 mg/kg. This was verified with four non-stain specific samples of the asphalt floor where the maximum PCB concentration detected was 0.534 mg/kg. The maximum remaining PCB concentration in an interim assessment stain-specific sample location was 0.716 mg/kg. An NFA under TSCA would be protective of human health and the environment at Building 84 AL#01. Consequently, it is requested that USEPA issue an NFA determination for the Building 84.

6.0 References

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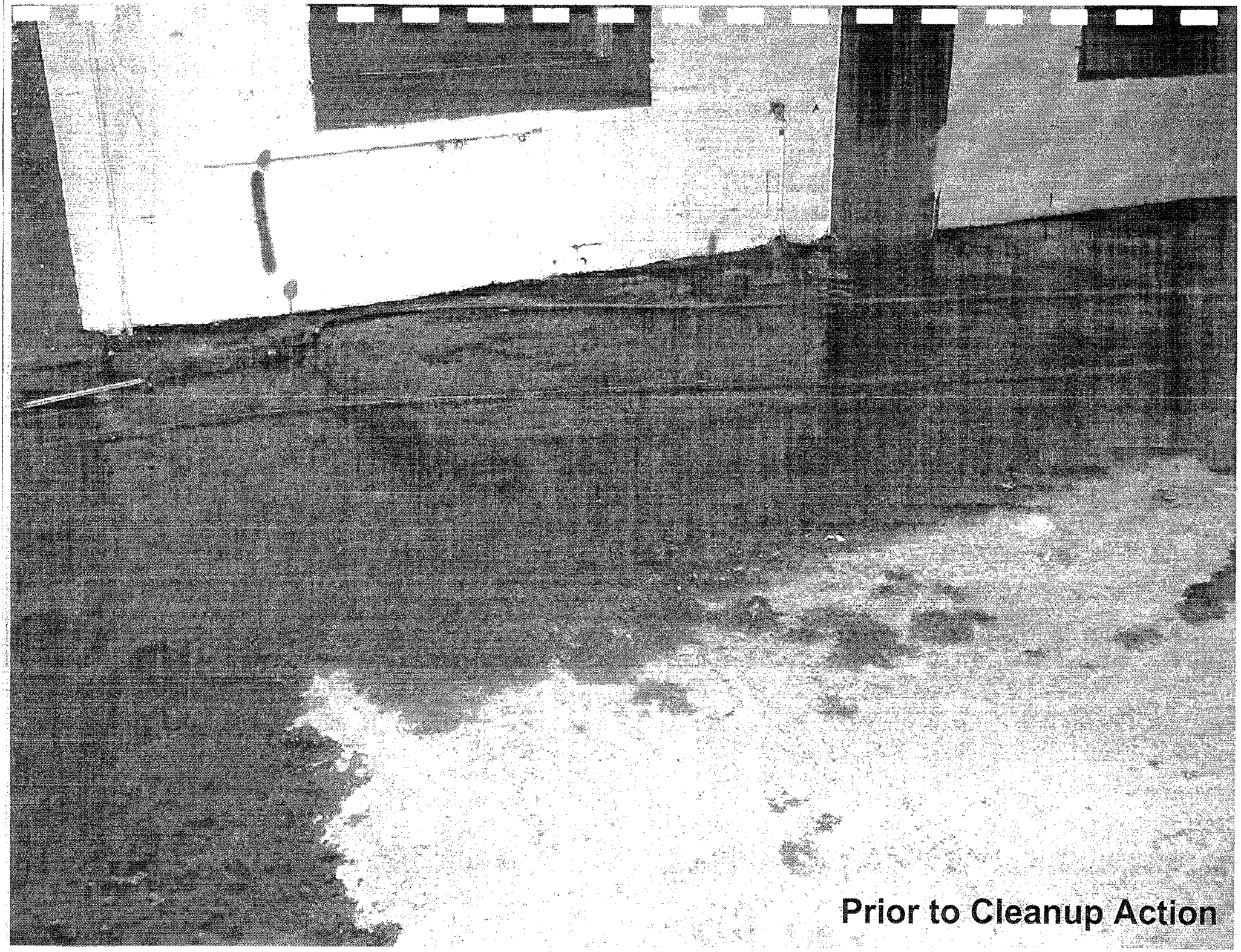
United States Environmental Protection Agency, United States Department of the Navy, the City of Vallejo, and Lennar Mare Island. 2001. *Complaint/Consent Agreement and Final Order between Lennar Mare Island, the City of Vallejo, the U.S. Department of the Navy, and the U.S. Environmental Protection Agency Region IX.* EPA Docket No. TSCA-9-2002-0002. December 20.

Appendix A
Photos of Building 84 AL#01


Prior to Cleanup Action


During Cleanup Action


After Cleanup Action

Appendix B
January 2004 Cleanup Action Analytical Data

CH2M HILL
Applied Sciences Group
2300 NW Walnut Blvd
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL
Applied Sciences Group

January 21, 2004

Mare Island

RE: Laboratory Report for Mare Island
Applied Sciences Group Reference No. D2669

Dear Carla Duncan/RNO:

On January 10, 2004, CH2M HILL Applied Sciences Group received six samples with a request for analysis of selected parameters. All analyses were performed by CH2M HILL unless otherwise indicated below.

The analytical results and associated quality control data are enclosed. Any unusual difficulties encountered during the analysis of your samples are discussed in the case narrative. This data package meets standards requested by client and is not intended or implied to meet any other standard.

CH2M HILL Applied Sciences Group appreciates your business and looks forward to serving your analytical needs again. If you should have any questions concerning the data, or if you need additional information, please call Ben Thompson at (541) 758-0235, extension 3132.

Sincerely,

Ben Thompson
Analytical Manager

Enclosures

cc:
Data Center/RDD

BP

CLIENT SAMPLE CROSS-REFERENCE

CH2M HILL Applied Sciences Group Reference No. D2669

Sample ID	Client Sample ID	Date Collected	Time Collected
D266901	B237-IDW	01/07/2004	11:35
D266902	B84-0801-S1	01/08/2004	10:41
D266903	B84-0802-S1	01/08/2004	10:42
D266904	B84-0803-S1	01/08/2004	10:57
D266905	B84-0804-S1	01/08/2004	10:58
D266906	IDW-B84-CONC	01/08/2004	11:10

Applied Sciences Laboratory

Organic CLP and CLP Like Data Qualifiers

U	The analyte was analyzed for, but not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
P	The primary and confirmation analyte result recoveries do not match.
E	The analyte was positively identified; the associated numerical value exceeded the instrument calibration range.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Inorganic CLP and CLP Like Data Qualifiers

U	The analyte was analyzed for, but not detected above the reported sample quantitation limit.
B	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
E	The analyte was positively identified; the associated numerical value exceeded the instrument calibration range.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

PCB AROCLORS

CASE NARRATIVE
PCB AROCLORS

Lab Reference No.: D2669

Client/Project: Mare Island

I. Holding Times:
All acceptance criteria were met.

II. Analysis:

A. Calibration:
All acceptance criteria were met.

B. Duplicate Sample(s):
All acceptance criteria were met.

C. Spike Sample(s):
All acceptance criteria were met.

D. Surrogate Recoveries:
All acceptance criteria were met.

E. Lab Control Sample(s):
All acceptance criteria were met.

F. Other:
None

III. Documentation Exceptions:
None

IV. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both technically and for completeness, except for the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Prepared by: _____

Reviewed by: _____

SAMPLE DATA SUMMARY

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Result for Sample ID B237-1DW is not applicable.

1A

ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84-0801-S1**

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669

Matrix: SOIL Lab Sample ID: **D266902**

Sample Amt.: 11.3 g Lab File ID: 004B0601.D

% Moisture: 8 Decanted: Y Date Received: 01/10/04

Extraction: Sonc Date Extracted: 01/12/04

Extract Vol.: 5 ml Date Analyzed: 01/16/04

Injection Vol.: 3.0 ul Dilution Factor: 1

GPC Cleanup: N Sulfur Cleanup: N

Concentration Units: ug/Kg

CAS #	Analyte	MDL	PQL	Result	Confirm	Q
12674-11-2	PCB-1016	0.94	31.9	31.9		U
11104-28-2	PCB-1221	2.32	31.9	31.9		U
11141-16-5	PCB-1232	1.62	31.9	31.9		U
53469-21-9	PCB-1242	2.06	31.9	138	128	
12672-29-6	PCB-1248	2.13	31.9	31.9		U
11097-69-1	PCB-1254	1.82	31.9	31.9		U
11096-82-5	PCB-1260	2.35	31.9	31.9		U

Surrogate	% Rec.	QC Limits	Qualifier
Decachlorobiphenyl	132	25-143	

Comments:

SAMPLE APPEARS TO CONTAIN TECHNICAL CHLORDANE.

1A

ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84-0802-S1**

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669

Matrix: SOIL Lab Sample ID: **D266903**

Sample Amt.: 11.4 g Lab File ID: 005B0801.D

% Moisture: 7 Decanted: Y Date Received: 01/10/04

Extraction: Sonc Date Extracted: 01/12/04

Extract Vol.: 5 ml Date Analyzed: 01/16/04

Injection Vol.: 3.0 ul Dilution Factor: 10

GPC Cleanup: N Sulfur Cleanup: N

Concentration Units: ug/Kg

CAS #	Analyte	MDL	PQL	Result	Confirm	Q
12674-11-2	PCB-1016	9.17	311	311		U
11104-28-2	PCB-1221	22.6	311	311		U
11141-16-5	PCB-1232	15.9	311	311		U
53469-21-9	PCB-1242	20.1	311	903	1110	
12672-29-6	PCB-1248	20.8	311	311		U
11097-69-1	PCB-1254	17.8	311	311		U
11096-82-5	PCB-1260	23.0	311	311		U

Surrogate	% Rec.	QC Limits	Qualifier
Decachlorobiphenyl	103	25-143	

Comments:

1A

ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84-0803-S1**

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669

Matrix: SOIL Lab Sample ID: **D266904**

Sample Amt.: 11.3 g Lab File ID: 006B1001.D

% Moisture: 24 Decanted: Y Date Received: 01/10/04

Extraction: Sonc Date Extracted: 01/12/04

Extract Vol.: 5 ml Date Analyzed: 01/16/04

Injection Vol.: 3.0 ul Dilution Factor: 1

GPC Cleanup: N Sulfur Cleanup: N

Concentration Units: ug/Kg

CAS #	Analyte	MDL	PQL	Result	Confirm	Q
12674-11-2	PCB-1016	1.13	38.2	38.2		U
11104-28-2	PCB-1221	2.77	38.2	38.2		U
11141-16-5	PCB-1232	1.95	38.2	38.2		U
53469-21-9	PCB-1242	2.46	38.2	135	125	
12672-29-6	PCB-1248	2.55	38.2	38.2		U
11097-69-1	PCB-1254	2.18	38.2	38.2		U
11096-82-5	PCB-1260	2.82	38.2	38.2		U

Surrogate	% Rec.	QC Limits	Qualifier
Decachlorobiphenyl	131	25-143	

Comments:

1A

ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84-0804-S1**

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669

Matrix: SOIL Lab Sample ID: **D266905**

Sample Amt.: 11.1 g Lab File ID: 007B1101.D

% Moisture: 18 Decanted: Y Date Received: 01/10/04

Extraction: Sonc Date Extracted: 01/12/04

Extract Vol.: 5 ml Date Analyzed: 01/16/04

Injection Vol.: 3.0 ul Dilution Factor: 1

GPC Cleanup: N Sulfur Cleanup: N

Concentration Units: ug/Kg

CAS #	Analyte	MDL	PQL	Result	Confirm	Q
12674-11-2	PCB-1016	1.06	36.0	36.0		U
11104-28-2	PCB-1221	2.62	36.0	36.0		U
11141-16-5	PCB-1232	1.84	36.0	36.0		U
53469-21-9	PCB-1242	2.32	36.0	36.0		U
12672-29-6	PCB-1248	2.41	36.0	36.0		U
11097-69-1	PCB-1254	2.06	36.0	36.0		U
11096-82-5	PCB-1260	2.66	36.0	36.0		U

Surrogate	% Rec.	QC Limits	Qualifier
Decachlorobiphenyl	121	25-143	

Comments:

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Result for sample ID IDW-884-CONC
is not applicable.

1A

ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **SB2-0112**

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669

Matrix: SOIL Lab Sample ID: **SB2-0112**

Sample Amt.: 10 g Lab File ID: 003B0301.D

% Moisture: 0 Decanted: N/A Date Received: N/A

Extraction: Sonc Date Extracted: 01/12/04

Extract Vol.: 5 ml Date Analyzed: 01/14/04

Injection Vol.: 3.0 ul Dilution Factor: 1

GPC Cleanup: N Sulfur Cleanup: N

Concentration Units: ug/Kg

CAS #	Analyte	MDL	PQL	Result	Confirm	Q
12674-11-2	PCB-1016	0.97	33.0	33.0		U
11104-28-2	PCB-1221	2.40	33.0	33.0		U
11141-16-5	PCB-1232	1.68	33.0	33.0		U
53469-21-9	PCB-1242	2.13	33.0	33.0		U
12672-29-6	PCB-1248	2.21	33.0	33.0		U
11097-69-1	PCB-1254	1.88	33.0	33.0		U
11096-82-5	PCB-1260	2.44	33.0	33.0		U

Surrogate	% Rec.	QC Limits	Qualifier
Decachlorobiphenyl	89.6	25-143	

Comments:

QC SUMMARY

ORGANICS LABORATORY CONTROL SAMPLE SUMMARY

Analytical Method: SW8082
Lab Name: CH2M HILL ASL
Concentration Units: ug/Kg
LCS ID: BS2S0112

SDG No.: D2669
Contract #: 920594.OTC
Matrix: SOIL
Initial Calibration ID: A601224A.M

Analyte	Expected	Found	% Rec.	QC Limits	Qualifier
PCB-1016	125	77.2	61.8	44-127	
PCB-1260	125	114	91.2	31-136	

Surrogate	% Rec.	QC Limits	Qualifier
Decachlorobiphenyl	92.5	25-143	

Comments:

ORGANICS METHOD BLANK SUMMARY

Field Sample ID: **SB2-0112**

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC
Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669
Lab File ID: 003B0301.D Lab Sample ID: **SB2-0112**
Matrix: SOIL Extraction: Sonc
Sulfur Cleanup: N Date Extracted: 01/12/04
GPC Cleanup: N Date Analyzed: 01/14/04
GC Column: DB1701 / DB5MS Time Analyzed: 18:29
Instrument ID: GC-H

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed
01	BS2S0112	BS2S0112	C:\HPCHEM\1\DATA\011404H1\004B0401.D	01/14/04
02	B237-IDW	D266901	C:\HPCHEM\1\DATA\011604H1\003B0401.D	01/16/04
03	B84-0801-S1	D266902	C:\HPCHEM\1\DATA\011604H1\004B0601.D	01/16/04
04	B84-0802-S1	D266903	C:\HPCHEM\1\DATA\011604H1\005B0801.D	01/16/04
05	B84-0803-S1	D266904	C:\HPCHEM\1\DATA\011604H1\006B1001.D	01/16/04
06	B84-0804-S1	D266905	C:\HPCHEM\1\DATA\011604H1\007B1101.D	01/16/04
07	IDW-B84-CONC	D266906	C:\HPCHEM\1\DATA\011604H1\008B1301.D	01/16/04
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

Comments:

ORGANICS INITIAL CALIBRATION

Lab Name: CH2M HILL/LAB/CVO
Lab Code: CVO
Case No.: D2669
SAS No.: D2669
Contract #: 920594.OTC
SDG No.: D2669
Instrument ID: GC-H
Calibration Date(s): 12/24/03
Initial Calibration ID: A601224A.M
Calibration Time(s): 15:27 - 18:42

	AR1016/AR1260 Calib.	Lab File ID:
Std 1:	LEVEL 1 1016 (12/24)	001B0102.D
Std 2:	LEVEL 2 1016 (12/24)	002B0201.D
Std 3:	LEVEL 3 1016 (12/24)	003B0301.D
Std 4:	LEVEL 4 1016 (12/24)	004B0401.D
Std 5:	LEVEL 5 1016 (12/24)	005B0501.D
Std 6:	LEVEL 6 1016 (12/24)	006B0601.D
Std 7:		

Individual PCB Calib.	Lab File ID:

GC Column: DB1701
Concentration Units: ng/ml

Analyte	STD 1	RF 1	STD 2	RF 2	STD 3	RF 3	STD 4	RF 4	STD 5	RF 5	STD 6	RF 6	STD 7	RF 7
PCB-1016 (Peak 1)	50	0.048051	100	0.050561	250	0.045158	500	0.052897	750	0.048991	1000	0.054489		
PCB-1016 (Peak 2)	50	0.020111	100	0.019790	250	0.016894	500	0.018800	750	0.017733	1000	0.019098		
PCB-1016 (Peak 3)	50	0.036813	100	0.039364	250	0.035927	500	0.040365	750	0.037767	1000	0.040729		
PCB-1016 (Peak 4)	50	0.035294	100	0.036326	250	0.034173	500	0.038203	750	0.036773	1000	0.039418		
PCB-1016 (Peak 5)	50	0.041891	100	0.044278	250	0.043947	500	0.048823	750	0.047773	1000	0.051344		
PCB-1260 (Peak 1)	50	0.023136	100	0.024660	250	0.024482	500	0.028191	750	0.028144	1000	0.030217		
PCB-1260 (Peak 2)	50	0.044174	100	0.045857	250	0.043550	500	0.049248	750	0.047620	1000	0.051476		
PCB-1260 (Peak 3)	50	0.013915	100	0.014311	250	0.012925	500	0.015243	750	0.014494	1000	0.015507		
PCB-1260 (Peak 4)	50	0.021231	100	0.022318	250	0.020558	500	0.023614	750	0.021723	1000	0.023568		
PCB-1260 (Peak 5)	50	0.057548	100	0.060275	250	0.053871	500	0.061899	750	0.056549	1000	0.061233		
Decachlorobiphenyl	10.0	0.001371	20	0.001530	50	0.001493	100	0.001816	150	0.001740	200	0.001839		

ORGANICS INITIAL CALIBRATION

Lab Name: CH2M HILL/LAB/CVO
Lab Code: CVO
Case No.: D2669
SAS No.: D2669
Contract #: 920594.OTC
SDG No.: D2669
Instrument ID: GC-H
Calibration Date(s): 12/24/03
Initial Calibration ID: A601224A.M
Calibration Time(s): 15:27 - 18:42

	AR1016/AR1260 Calib.	Lab File ID:
Std 1:	LEVEL 1 1016 (12/24)	001B0102.D
Std 2:	LEVEL 2 1016 (12/24)	002B0201.D
Std 3:	LEVEL 3 1016 (12/24)	003B0301.D
Std 4:	LEVEL 4 1016 (12/24)	004B0401.D
Std 5:	LEVEL 5 1016 (12/24)	005B0501.D
Std 6:	LEVEL 6 1016 (12/24)	006B0601.D
Std 7:		

Individual PCB Calib.	Lab File ID:

GC Column: DB1701
Concentration Units: ng/ml

Analyte	Curve Fit	Avg. RRF	% RSD	Mean % RSD	R or COD	Q
PCB-1016 (Peak 1)	Quadratic	0.050025	6.8		0.99772	
PCB-1016 (Peak 2)	Quadratic	0.018738	6.6		0.99886	
PCB-1016 (Peak 3)	Quadratic	0.038494	5.1		0.99867	
PCB-1016 (Peak 4)	Quadratic	0.036698	5.2		0.99919	
PCB-1016 (Peak 5)	Quadratic	0.046343	7.7		0.99938	
PCB-1260 (Peak 1)	Quadratic	0.026472	10.4		0.99944	
PCB-1260 (Peak 2)	Quadratic	0.046988	6.5		0.9991	
PCB-1260 (Peak 3)	Quadratic	0.014399	6.5		0.9987	
PCB-1260 (Peak 4)	Quadratic	0.022169	5.6		0.99818	
PCB-1260 (Peak 5)	Quadratic	0.058563	5.3		0.99808	
Decachlorobiphenyl (SS)	Quadratic	0.001631	11.9		0.99868	

ORGANICS INITIAL CALIBRATION

Lab Name: CH2M HILL/LAB/CVO
Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669
Instrument ID: GC-H
Initial Calibration ID: A421215A

Contract #: 920594.OTC
Calibration Date(s): 12/15/2003-12/16/200
Calibration Time(s): 22:40-01:22

	AR1242 Calib.	Lab File ID:
Std 1:	LEVEL 1 1242 (12/15)	008B0801.D
Std 2:	LEVEL 2 1242 (12/15)	009B0901.D
Std 3:	LEVEL 3 1242 (12/15)	010B1001.D
Std 4:	LEVEL 4 1242 (12/15)	011B1101.D
Std 5:	LEVEL 5 1242 (12/15)	012B1201.D
Std 6:	LEVEL 6 1242 (12/15)	013B1301.D
Std 7:		

Individual PCB Calib.	Lab File ID:

GC Column: DB1701 Concentration Units: ng/ml

Analyte	STD 1	RF 1	STD 2	RF 2	STD 3	RF 3	STD 4	RF 4	STD 5	RF 5	STD 6	RF 6	STD 7	RF 7
PCB-1242 (Peak 1)	50	0.100148	100	0.090480	250	0.102818	500	0.098842	750	0.097016	1000	0.101241		
PCB-1242 (Peak 2)	50	0.064680	100	0.056574	250	0.066279	500	0.066881	750	0.065951	1000	0.070841		
PCB-1242 (Peak 3)	50	0.034493	100	0.036127	250	0.042228	500	0.046259	750	0.046121	1000	0.048498		
PCB-1242 (Peak 4)	50	0.113581	100	0.102235	250	0.112496	500	0.107930	750	0.106708	1000	0.108364		
PCB-1242 (Peak 5)	50	0.055043	100	0.049554	250	0.055147	500	0.053475	750	0.053283	1000	0.053669		

ORGANICS INITIAL CALIBRATION

Lab Name: CH2M HILL/LAB/CVO
Lab Code: CVO
Case No.: D2669
SAS No.: D2669
Contract #: 920594.OTC
SDG No.: D2669
Instrument ID: GC-H
Calibration Date(s): 12/15/2003-12/16/2003
Initial Calibration ID: A421215A
Calibration Time(s): 22:40-01:22

	AR1242 Calib.	Lab File ID:
Std 1:	LEVEL 1 1242 (12/15)	008B0801.D
Std 2:	LEVEL 2 1242 (12/15)	009B0901.D
Std 3:	LEVEL 3 1242 (12/15)	010B1001.D
Std 4:	LEVEL 4 1242 (12/15)	011B1101.D
Std 5:	LEVEL 5 1242 (12/15)	012B1201.D
Std 6:	LEVEL 6 1242 (12/15)	013B1301.D
Std 7:		

Individual PCB Calib.	Lab File ID:

GC Column: DB1701
Concentration Units: ng/ml

Analyte	Curve Fit	Avg. RRF	% RSD	Mean % RSD	R or COD	Q
PCB-1242 (Peak 1)	Quadratic	0.098424	3.4		0.99944	
PCB-1242 (Peak 2)	Quadratic	0.065201	1.9		0.99869	
PCB-1242 (Peak 3)	Quadratic	0.042288	4.6		0.99941	
PCB-1242 (Peak 4)	Quadratic	0.108552	1.8		0.99984	
PCB-1242 (Peak 5)	Quadratic	0.053362	6.7		0.9999	

ORGANICS INITIAL CALIBRATION

Lab Name: CH2M HILL/LAB/CVO
Lab Code: CVO
Case No.: D2669
SAS No.: D2669
Contract #: 920594.OTC
SDG No.: D2669
Instrument ID: GC-H
Calibration Date(s): 12/24 - 12/25/03
Initial Calibration ID: A601224A.M
Calibration Time(s): 20:52 - 01:43

	AR1016/AR1260 Calib.	Lab File ID:
Std 1:		
Std 2:		
Std 3:		
Std 4:		
Std 5:		
Std 6:		

	Individual PCB Calib.	Lab File ID:
Std 1:	AROCLOR 1221 (12/24)	015B1501.D
Std 1:	AROCLOR 1232 (12/24)	016B1601.D
Std 1:	AROCLOR 1242 (12/24)	017B1701.D
Std 1:	AROCLOR 1248 (12/24)	018B1801.D
Std 1:	AROCLOR 1254 (12/24)	010B1001.D
Std 1:		
Std 1:		

GC Column: DB1701
Concentration Units: ng/ml

Analyte	STD 1	RF 1	STD 2	RF 2	STD 3	RF 3	STD 4	RF 4	STD 5	RF 5	STD 6	RF6	STD 7	RF 7
PCB-1221 (Peak 1)	250	0.065618												
PCB-1221 (Peak 2)	250	0.177890												
PCB-1221 (Peak 3)	250	0.096169												
PCB-1221 (Peak 4)	250	0.071376												
PCB-1221 (Peak 5)	250	0.031847												
PCB-1232 (Peak 1)	250	0.098719												
PCB-1232 (Peak 2)	250	0.044553												
PCB-1232 (Peak 3)	250	0.110440												
PCB-1232 (Peak 4)	250	0.045975												
PCB-1232 (Peak 5)	250	0.081286												
PCB-1242 (Peak 1)	250	0.102850												
PCB-1242 (Peak 2)	250	0.068337												
PCB-1242 (Peak 3)	250	0.051214												
PCB-1242 (Peak 4)	250	0.119960												
PCB-1242 (Peak 5)	250	0.059986												
PCB-1248 (Peak 1)	250	0.033805												
PCB-1248 (Peak 2)	250	0.027717												
PCB-1248 (Peak 3)	250	0.031388												
PCB-1248 (Peak 4)	250	0.059576												
PCB-1248 (Peak 5)	250	0.105440												
PCB-1254 (Peak 1)	250	0.041895												
PCB-1254 (Peak 2)	250	0.047799												
PCB-1254 (Peak 3)	250	0.030765												
PCB-1254 (Peak 4)	250	0.028578												
PCB-1254 (Peak 5)	250	0.055534												

ORGANICS INITIAL CALIBRATION

Lab Name: CH2M HILL/LAB/CVO
Lab Code: CVO
Case No.: D2669
SAS No.: D2669
Contract #: 920594.OTC
SDG No.: D2669
Instrument ID: GC-H
Calibration Date(s): 12/24 - 12/25/03
Initial Calibration ID: A601224A.M
Calibration Time(s): 20:52 - 01:43

	AR1016/AR1260 Calib.	Lab File ID:
Std 1:		
Std 2:		
Std 3:		
Std 4:		
Std 5:		
Std 6:		

	Individual PCB Calib.	Lab File ID:
Std 1:	AROCLOR 1221 (12/24)	015B1501.D
Std 1:	AROCLOR 1232 (12/24)	016B1601.D
Std 1:	AROCLOR 1242 (12/24)	017B1701.D
Std 1:	AROCLOR 1248 (12/24)	018B1801.D
Std 1:	AROCLOR 1254 (12/24)	010B1001.D
Std 1:		
Std 1:		

GC Column: DB1701
Concentration Units: ng/ml

Analyte	Curve Fit	Avg. RRF	% RSD	Mean % RSD	R or COD	Q
PCB-1221 (Peak 1)	Single Pt	0.065618				
PCB-1221 (Peak 2)	Single Pt	0.177890				
PCB-1221 (Peak 3)	Single Pt	0.096169				
PCB-1221 (Peak 4)	Single Pt	0.071376				
PCB-1221 (Peak 5)	Single Pt	0.031847				
PCB-1232 (Peak 1)	Single Pt	0.098719				
PCB-1232 (Peak 2)	Single Pt	0.044553				
PCB-1232 (Peak 3)	Single Pt	0.110440				
PCB-1232 (Peak 4)	Single Pt	0.045975				
PCB-1232 (Peak 5)	Single Pt	0.081286				
PCB-1242 (Peak 1)	Single Pt	0.102850				
PCB-1242 (Peak 2)	Single Pt	0.068337				
PCB-1242 (Peak 3)	Single Pt	0.051214				
PCB-1242 (Peak 4)	Single Pt	0.119960				
PCB-1242 (Peak 5)	Single Pt	0.059986				
PCB-1248 (Peak 1)	Single Pt	0.033805				
PCB-1248 (Peak 2)	Single Pt	0.027717				
PCB-1248 (Peak 3)	Single Pt	0.031388				
PCB-1248 (Peak 4)	Single Pt	0.059576				
PCB-1248 (Peak 5)	Single Pt	0.105440				
PCB-1254 (Peak 1)	Single Pt	0.041895				
PCB-1254 (Peak 2)	Single Pt	0.047799				
PCB-1254 (Peak 3)	Single Pt	0.030765				
PCB-1254 (Peak 4)	Single Pt	0.028578				
PCB-1254 (Peak 5)	Single Pt	0.055534				

7A

ORGANICS CALIBRATION VERIFICATION SUMMARY

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669

Instrument ID: GC-H Calibration Date(s): 12/24/03

Initial Calibration ID: A601224A.M Calibration Time(s): 15:27 - 18:42

ICV ID: ICV-1224 CCV #1 ID: CCV #2 ID:

GC Column: DB1701 Concentration Units: ng/ml

Analyte	ICV			CCV #1			CCV #2			Q
	Expected	Found	% D	Expected	Found	% D	Expected	Found	% D	
PCB-1016	250	242	-3.2							
PCB-1260	250	239	-4.6							
Decachlorobiphenyl	50.0	47.6	-4.9							

Comments:

7A

ORGANICS CALIBRATION VERIFICATION SUMMARY

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669

Instrument ID: GC-H Calibration Date(s): 12/15/2003-12/16/200

Initial Calibration ID: A421215A Calibration Time(s): 22:40-01:22

ICV ID: ICV2-1215 CCV #1 ID: CCV #2 ID:

GC Column: DB1701 Concentration Units: ng/ml

Analyte	ICV			CCV #1			CCV #2			Q
	Expected	Found	% D	Expected	Found	% D	Expected	Found	% D	
PCB-1242	250	247	-1.3							
Decachlorobiphenyl	50.0	49.5	-0.9							

Comments:

7A

ORGANICS CALIBRATION VERIFICATION SUMMARY

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669

Instrument ID: GC-H Calibration Date(s): 12/24/03

Initial Calibration ID: A601224A.M Calibration Time(s): 15:27 - 18:42

ICV ID: CV1-0114 CCV #1 ID: CV2-0114 CCV #2 ID:

GC Column: DB1701 Concentration Units: ng/ml

Analyte	ICV			CCV #1			CCV #2			Q
	Expected	Found	% D	Expected	Found	% D	Expected	Found	% D	
PCB-1016	250	236	-5.5	250	216	-13.6				
PCB-1260	250	281	12.6	250	230	-8.2				
Decachlorobiphenyl	50.0	64.4	28.7	50.0	51.8	3.7				

Comments:

7A

ORGANICS CALIBRATION VERIFICATION SUMMARY

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669

Instrument ID: GC-H Calibration Date(s): 12/24/03

Initial Calibration ID: A601224A.M Calibration Time(s): 15:27 - 18:42

ICV ID: CV1-0116 CCV #1 ID: CV3-0116 CCV #2 ID:

GC Column: DB1701 Concentration Units: ng/ml

Analyte	ICV			CCV #1			CCV #2			Q
	Expected	Found	% D	Expected	Found	% D	Expected	Found	% D	
PCB-1016	250	228	-8.9	250	240	-3.8				
PCB-1260	250	253	1.1	250	261	4.6				
Decachlorobiphenyl	50.0	55.1	10.2	50.0	59.1	18.2				

Comments:

7A

ORGANICS CALIBRATION VERIFICATION SUMMARY

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669

Instrument ID: GC-H Calibration Date(s): 12/15/2003-12/16/200

Initial Calibration ID: A421215A Calibration Time(s): 22:40-01:22

ICV ID: CV2-0116 CCV #1 ID: CV4-0116 CCV #2 ID:

GC Column: DB1701 Concentration Units: ng/ml

Analyte	ICV			CCV #1			CCV #2			Q
	Expected	Found	% D	Expected	Found	% D	Expected	Found	% D	
PCB-1242	250	233	-6.9	250	214	-14.3				
Decachlorobiphenyl	50.0	61.1	22.1	50.0	52.1	4.3				

Comments:

8

ORGANICS ANALYTICAL SEQUENCE

Lab Name: CH2M HILL/LAB/CVO — Contract #: 920594.OTC

Lab Code: CVO — Case No.: D2669 — SAS No.: D2669 — SDG No.: D2669

GC Column: DB1701 / DB5MS — Start Date: 12/15/03 — End Date: 12/16/03

Instrument ID: GC-H — Start Time: 22:40 — End Time: 01:54

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
01	LEVEL 1 1242 (12/15)	LEVEL 1 1242 (12/15)	C:\HPCHEM\1\DATA\121503H2\008B0801.D	12/15/03	22:40
02	LEVEL 2 1242 (12/15)	LEVEL 2 1242 (12/15)	C:\HPCHEM\1\DATA\121503H2\009B0901.D	12/15/03	23:12
03	LEVEL 3 1242 (12/15)	LEVEL 3 1242 (12/15)	C:\HPCHEM\1\DATA\121503H2\010B1001.D	12/15/03	23:44
04	LEVEL 4 1242 (12/15)	LEVEL 4 1242 (12/15)	C:\HPCHEM\1\DATA\121503H2\011B1101.D	12/16/03	00:17
05	LEVEL 5 1242 (12/15)	LEVEL 5 1242 (12/15)	C:\HPCHEM\1\DATA\121503H2\012B1201.D	12/16/03	00:49
06	LEVEL 6 1242 (12/15)	LEVEL 6 1242 (12/15)	C:\HPCHEM\1\DATA\121503H2\013B1301.D	12/16/03	01:22
07	ICV2-1215	ICV2-1215	C:\HPCHEM\1\DATA\121503H2\014B1401.D	12/16/03	01:54
08					
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Comments:

8

ORGANICS ANALYTICAL SEQUENCE

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669

GC Column: DB1701 / DB5MS Start Date: 12/24/03 End Date: 12/25/03

Instrument ID: GC-H Start Time: 15:27 End Time: 01:43

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
01	LEVEL 1 1016 (12/24)	LEVEL 1 1016 (12/24)	C:\HPCHEM\1\DATA\122403H1\001B0102.D	12/24/03	15:27
02	LEVEL 2 1016 (12/24)	LEVEL 2 1016 (12/24)	C:\HPCHEM\1\DATA\122403H1\002B0201.D	12/24/03	16:00
03	LEVEL 3 1016 (12/24)	LEVEL 3 1016 (12/24)	C:\HPCHEM\1\DATA\122403H1\003B0301.D	12/24/03	16:32
04	LEVEL 4 1016 (12/24)	LEVEL 4 1016 (12/24)	C:\HPCHEM\1\DATA\122403H1\004B0401.D	12/24/03	17:05
05	LEVEL 5 1016 (12/24)	LEVEL 5 1016 (12/24)	C:\HPCHEM\1\DATA\122403H1\005B0501.D	12/24/03	17:37
06	LEVEL 6 1016 (12/24)	LEVEL 6 1016 (12/24)	C:\HPCHEM\1\DATA\122403H1\006B0601.D	12/24/03	18:10
07	ICV-1224	ICV-1224	C:\HPCHEM\1\DATA\122403H1\007B0701.D	12/24/03	18:42
08	AROCLOR 1254 (12/24)	AROCLOR 1254 (12/24)	C:\HPCHEM\1\DATA\122403H1\010B1001.D	12/24/03	20:52
09	AROCLOR 1221 (12/24)	AROCLOR 1221 (12/24)	C:\HPCHEM\1\DATA\122403H1\015B1501.D	12/25/03	00:06
10	AROCLOR 1232 (12/24)	AROCLOR 1232 (12/24)	C:\HPCHEM\1\DATA\122403H1\016B1601.D	12/25/03	00:38
11	AROCLOR 1242 (12/24)	AROCLOR 1242 (12/24)	C:\HPCHEM\1\DATA\122403H1\017B1701.D	12/25/03	01:11
12	AROCLOR 1248 (12/24)	AROCLOR 1248 (12/24)	C:\HPCHEM\1\DATA\122403H1\018B1801.D	12/25/03	01:43
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Comments:

8

ORGANICS ANALYTICAL SEQUENCE

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669

GC Column: DB1701 / DB5MS Start Date: 01/14/04 End Date: 01/15/04

Instrument ID: GC-H Start Time: 16:19 End Time: 02:10

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
01	CV1-0114	CV1-0114	C:\HPCHEM\1\DATA\011404H1\001B0101.D	01/14/04	16:19
02	SB2-0112	SB2-0112	C:\HPCHEM\1\DATA\011404H1\003B0301.D	01/14/04	18:29
03	BS2S0112	BS2S0112	C:\HPCHEM\1\DATA\011404H1\004B0401.D	01/14/04	19:01
04	CV2-0114	CV2-0114	C:\HPCHEM\1\DATA\011404H1\014B1702.D	01/15/04	02:10
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Comments:

ORGANICS ANALYTICAL SEQUENCE

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC
Lab Code: CVO Case No.: D2669 SAS No.: D2669 SDG No.: D2669
GC Column: DB1701 / DB5MS Start Date: 01/16/04 End Date: 01/16/04
Instrument ID: GC-H Start Time: 10:23 End Time: 18:19

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
01	CV1-0116	CV1-0116	C:\HPCHEM\1\DATA\011404H1\001B0201.D	01/16/04	10:23
02	CV2-0116	CV2-0116	C:\HPCHEM\1\DATA\011404H1\002B0301.D	01/16/04	11:28
03	B237-IDW	D266901	C:\HPCHEM\1\DATA\011604H1\003B0401.D	01/16/04	12:33
04	B84-0801-S1	D266902	C:\HPCHEM\1\DATA\011604H1\004B0601.D	01/16/04	13:29
05	B84-0802-S1	D266903	C:\HPCHEM\1\DATA\011604H1\005B0801.D	01/16/04	14:25
06	B84-0803-S1	D266904	C:\HPCHEM\1\DATA\011604H1\006B1001.D	01/16/04	15:22
07	B84-0804-S1	D266905	C:\HPCHEM\1\DATA\011604H1\007B1101.D	01/16/04	15:54
08	IDW-B84-CONC	D266906	C:\HPCHEM\1\DATA\011604H1\008B1301.D	01/16/04	16:50
09	CV3-0116	CV3-0116	C:\HPCHEM\1\DATA\011404H1\009B1501.D	01/16/04	17:46
10	CV4-0116	CV4-0116	C:\HPCHEM\1\DATA\011404H1\010B1601.D	01/16/04	18:19
11					
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Comments:

CH2MHILL
Applied Sciences Group

January 21, 2004

CH2M HILL *Page 2 of 2*
Applied Sciences Group
2300 NW Walnut Blvd
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

MDL Replicate Information

Method:	Extraction Method:	Matrix:	Units	Instrument:
SW8082	SW3550	SOIL	UG/KG	GCH

Comment:

CAS_NO	PARAMETER	MDL Date	MDL	R1	R2	R3	R4	R5	R6	R7	R8	Mean	Std.Dev.	Spike Lev.
12674-11-2	Aroclor-1016	02/17/2003	0.19	2.745	2.727	2.647	2.839	2.72	2.705	2.662	2.64	2.71	0.06486235	0.5
11104-28-2	Aroclor-1221	02/17/2003	0.48	1.012	1.34	1.103	1.104	1.452	1.332	1.38	1.336	1.26	0.15993653	0.5
11141-16-5	Aroclor-1232	02/17/2003	0.34	0.999	1.092	1.222	0.818	1.017	1.045	1.03	1.067	1.04	0.11216282	0.5
53469-21-9	Aroclor-1242	02/17/2003	0.42	0.83	0.721	0.955	0.912	0.92	1.171	1.068	0.834	0.93	0.14190835	0.5
12672-29-6	Aroclor-1248	02/17/2003	0.44	1.666	1.566	1.324	1.514	1.28	1.456	1.634	1.646	1.51	0.14724493	0.5
11097-69-1	Aroclor-1254	02/17/2003	0.38	1.005	0.993	1.047	1.005	0.793	0.817	0.908	0.699	0.91	0.12566956	0.5
11096-82-5	Aroclor-1260	02/17/2003	0.49	2.094	2.229	2.172	2.062	2.564	2.122	2.217	2.337	2.22	0.16243322	0.5

CHAIN OF CUSTODY/SHIPPING DOCUMENTS

D26069

Chain of Custody Record

COC Number: **CHMC-060**

CH2MHILL

Project Name Mare Island **Location** Mare Island
Task Order 19.07 **Project** PCB Removal Actions
Project Number 164204.19.07
Project Manager Carla Duncan
Sample Manager Mike Godwin (707) 562-1015
Turnaround Time 7 Days

Sample ID	Sample Date/Time	Type	Matrix	# Containers	Preserv	D2216	SW8082	
B237-IDW	07-Jan-04 11:35	N	Soil					
			Field Filtered ☐	1	4'C	☑	☑	1
			Total Containers:		1			
B84-0801-S1	08-Jan-04 10:41	N	Soil					
3 pt composite, soil below conc			Field Filtered ☐	1	4'C	☑	☑	2
			Total Containers:		1			
B84-0802-S1	08-Jan-04 10:42	N	Soil					
3 pt composite, soil below conc			Field Filtered ☐	1	4'C	☑	☑	3
			Total Containers:		1			
B84-0803-S1	08-Jan-04 10:57	N	Soil					
3 pt composite, soil below conc			Field Filtered ☐	1	4'C	☑	☑	4
			Total Containers:		1			
B84-0804-S1	08-Jan-04 10:58	N	Soil					
3 pt composite, soil below conc			Field Filtered ☐	1	4'C	☑	☑	5
			Total Containers:		1			

	Signatures	Date/Time
Approved by		
Sampled by	[signature]	1/8/04 1445
Relinquished by	[signature]	1/10/04
Received by		
Relinquished by		
Received by		

Shipping Details
Method of Shipment: FedEx
Airbill No: 790513749593
Lab Name: CH2M Hill Applied Sciences Laborator..
Lab Phone: (541) 752-4271

ATTN:
Sample Custody
and
Kathy McKinley

Special Instructions:
Report Copy to
Dan Moore
(530) 339-3405

1/16/04

Chain of Custody Record

COC Number: CHMC-060

CH2MHILL

Project Name Mare Island **Location** Mare Island
Task Order 19.07 **Project** PCB Removal Actions
Project Number 164204.19.07
Project Manager Carla Duncan
Sample Manager Mike Godwin (707) 562-1015
Turnaround Time 7 Days

Sample ID	Sample Date/Time	Type	Matrix	# Containers	Preserv	D2216	SW8082																			
IDW-B84-CONC	08-Jan-04 11:10	N	Soil																							
				Field Filtered ☐	1	4°C	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				Total Containers:	1																					

6

	Signatures	Date/Time
Approved by		
Sampled by		1/8/04 1415
Relinquished by		
Received by		1/16/04
Relinquished by		
Received by		

Shipping Details
Method of Shipment: FedEx
Airbill No: 790513749593
Lab Name: CH2M Hill Applied Sciences Laborator
Lab Phone: (541) 752-4271

ATTN:
Sample Custody
and
Kathy McKinley

Special Instructions:
Report Copy to
Dan Moore
(530) 339-3405

CH2MHILL
Analytical Services

Sample Receipt Record

Batch Number: D20609

Date received: 1/10/04

Client/Project: Marc Joland

VERIFICATION OF SAMPLE CONDITIONS (verify all items) * HD = Client Hand delivered Samples

Observation	YES	NO
Radiological Screening for AFCEE		✓
Were custody seals intact and on the outside of the cooler?	✓	
If yes, Where? Front ✓ Rear ✓ Lt Side ___ Rt Side ___		
Type of packing material: (Ice) Blue Ice Bubble wrap	✓	
Was the Chain of Custody inside the cooler?	✓	
Was the Chain of Custody properly filled out?	✓	
Were the sample containers in good condition?	✓	
Containers supplied by ASL?	✓	
Was there ice in the cooler? Enter temp. 4 C	✓	
All VOCs free of air bubbles ? NA		

If the answer to any of the questions above is NO, a Sample Receipt Exceptions Report Must be written.

VERIFICATION OF SAMPLE PRESERVATION (verify all preserved samples except HAAs, HANs and CH)

Sample No	Nutrients pH <2	Metals pH <2	Volatiles pH <2	Cyanides pH >12	TOC pH <2	TOX pH <2	Other (specify)	N/A (soils/unpres)
1								↓
2								
3								
4								
5								
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LOGIN AND pH VERIFICATIONS PERFORMED BY

[signature] Date/Time 1/10/04 Date/Time

Rev 11/05/2003-recptrcd.xls

CH2M HILL
Applied Sciences Group
2300 NW Walnut Blvd
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL
Applied Sciences Group

February 4, 2004

Mare Island

RE: Laboratory Report for Mare Island
Applied Sciences Group Reference No. D2765

Dear Carla Duncan/RNO:

On January 27, 2004, CH2M HILL Applied Sciences Group received 12 samples with a request for analysis of selected parameters. All analyses were performed by CH2M HILL unless otherwise indicated below.

The analytical results and associated quality control data are enclosed. Any unusual difficulties encountered during the analysis of your samples are discussed in the case narrative. This data package meets standards requested by client and is not intended or implied to meet any other standard.

CH2M HILL Applied Sciences Group appreciates your business and looks forward to serving your analytical needs again. If you should have any questions concerning the data, or if you need additional information, please call Ben Thompson at (541) 758-0235, extension 3132.

Sincerely,

Ben Thompson
Analytical Manager

Enclosures

cc:
Data Center/RDD

BS

CLIENT SAMPLE CROSS-REFERENCE

CH2M HILL Applied Sciences Group Reference No. D2765

Sample ID	Client Sample ID	Date Collected	Time Collected
D276501	B84-0802-S1.5	01/23/2004	13:30
D276502	BH83-0834-S0	01/23/2004	13:50
D276503	BH83-0836-S0	01/23/2004	14:00
D276504	BH89-0803-S3.5	01/23/2004	15:00
D276505	BH89-0804-S3.5	01/23/2004	15:05
D276506	BH89-0805-SW2	01/23/2004	15:10
D276507FD	BH89-0805-SW2FD	01/23/2004	15:10
D276508	BM37-0846-S1	01/23/2004	15:25
D276509	BM37-0847-S1	01/23/2004	15:27
D276510	BM37-0848-S1	01/23/2004	15:30
D276511	BM37-0849-S1	01/23/2004	15:35
D276512FD	BM37-0849-S1FD	01/23/2004	15:35

Applied Sciences Laboratory

Organic CLP and CLP Like Data Qualifiers

U	The analyte was analyzed for, but not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
P	The primary and confirmation analyte result recoveries do not match.
E	The analyte was positively identified; the associated numerical value exceeded the instrument calibration range.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Inorganic CLP and CLP Like Data Qualifiers

U	The analyte was analyzed for, but not detected above the reported sample quantitation limit.
B	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
E	The analyte was positively identified; the associated numerical value exceeded the instrument calibration range.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

PCB AROCLORS BY METHOD SW8082

CASE NARRATIVE
PCBs as Aroclors

Lab Reference No.: D2765

Client/Project: Mare Island

I. Holding Times:
All acceptance criteria were met.

II. Analysis:

A. Calibration:
All acceptance criteria were met.

B. Duplicate Sample(s):
All acceptance criteria were met.

C. Spike Sample(s):
All acceptance criteria were met.

D. Surrogate Recoveries:
All acceptance criteria were met.

E. Lab Control Sample(s):
All acceptance criteria were met.

F. Other:
Samples BH83-0834-S0 (D276502), BH83-0836-S0 (D276503), BH37-0847-S1 (D276509), BM37-0848-S1 (D276510) and BM37-0849-S1 (D276511) appear to have technical chlordane contamination.

III. Documentation Exceptions:
None

IV. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both technically and for completeness, except for the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Prepared by: _____

Reviewed by: _____

SAMPLE DATA SUMMARY

1A

ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84-0802-S1.5**

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2765 SAS No.: D2765 SDG No.: D2765

Matrix: SOIL Lab Sample ID: **D276501**

Sample Amt.: 11.7 g Lab File ID: 013F0601.D

% Moisture: 10 Decanted: Y Date Received: 01/27/04

Extraction: Sonc Date Extracted: 01/27/04

Extract Vol.: 5 ml Date Analyzed: 01/30/04

Injection Vol.: 3.0 ul Dilution Factor: 1

GPC Cleanup: N Sulfur Cleanup: N

Concentration Units: ug/Kg

CAS #	Analyte	MDL	PQL	Result	Confirm	Q
12674-11-2	PCB-1016	0.93	31.5	31.5		U
11104-28-2	PCB-1221	2.29	31.5	31.5		U
11141-16-5	PCB-1232	1.60	31.5	31.5		U
53469-21-9	PCB-1242	2.03	31.5	78.0	76.4	
12672-29-6	PCB-1248	2.10	31.5	31.5		U
11097-69-1	PCB-1254	1.80	31.5	31.5		U
11096-82-5	PCB-1260	2.32	31.5	31.5		U

Surrogate	% Rec.	QC Limits	Qualifier
Decachlorobiphenyl	97.9	25-143	

Comments:

Pages 8-18 are intentionally not included. These sample results are not associated with Building 84.

1A

ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **SB1-0127**

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2765 SAS No.: D2765 SDG No.: D2765

Matrix: SOIL Lab Sample ID: **SB1-0127**

Sample Amt.: 10 g Lab File ID: 010F0301.D

% Moisture: 0 Decanted: N/A Date Received: N/A

Extraction: Sonc Date Extracted: 01/27/04

Extract Vol.: 5 ml Date Analyzed: 01/30/04

Injection Vol.: 3.0 ul Dilution Factor: 1

GPC Cleanup: N Sulfur Cleanup: N

Concentration Units: ug/Kg

CAS #	Analyte	MDL	PQL	Result	Confirm	Q
12674-11-2	PCB-1016	0.97	33.0	33.0		U
11104-28-2	PCB-1221	2.40	33.0	33.0		U
11141-16-5	PCB-1232	1.68	33.0	33.0		U
53469-21-9	PCB-1242	2.13	33.0	33.0		U
12672-29-6	PCB-1248	2.21	33.0	33.0		U
11097-69-1	PCB-1254	1.88	33.0	33.0		U
11096-82-5	PCB-1260	2.44	33.0	33.0		U

Surrogate	% Rec.	QC Limits	Qualifier
Decachlorobiphenyl	92.5	25-143	

Comments:

QC SUMMARY

3

ORGANICS LABORATORY CONTROL SAMPLE SUMMARY

Analytical Method: SW8082
Lab Name: CH2M HILL ASL
Concentration Units: ug/Kg
LCS ID: BS1S0127

SDG No.: D2765
Contract #: 920594.OTC
Matrix: SOIL
Initial Calibration ID: A600127A

Analyte	Expected	Found	% Rec.	QC Limits	Qualifier
PCB-1016	125	73.6	58.9	44-127	
PCB-1260	125	105	84.0	31-136	

Surrogate	% Rec.	QC Limits	Qualifier
Decachlorobiphenyl	82.0	25-143	

Comments:

ORGANICS METHOD BLANK SUMMARY

Field Sample ID: **SB1-0127**

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC
Lab Code: CVO Case No.: D2765 SAS No.: D2765 SDG No.: D2765
Lab File ID: 010F0301.D Lab Sample ID: **SB1-0127**
Matrix: SOIL Extraction: Sonc
Sulfur Cleanup: N Date Extracted: 01/27/04
GPC Cleanup: N Date Analyzed: 01/30/04
GC Column: DB1701 / DB5MS Time Analyzed: 10:29
Instrument ID: GC-H

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed
01	BS1S0127	BS1S0127	C:\HPCHEM\1\DATA\013004H1\011F0401.D	01/30/04
02	B84-0802-S1.5	D276501	C:\HPCHEM\1\DATA\013004H1\013F0601.D	01/30/04
03	BH83-0834-S0	D276502	C:\HPCHEM\1\DATA\013004H1\023F1701.D	01/30/04
04	BH83-0836-S0	D276503	C:\HPCHEM\1\DATA\013004H1\024F1801.D	01/30/04
05	BH89-0803-S3.5	D276504	C:\HPCHEM\1\DATA\013004H1\025F1901.D	01/30/04
06	BH89-0804-S3.5	D276505	C:\HPCHEM\1\DATA\013004H1\016F0901.D	01/30/04
07	BH89-0805-SW2	D276506	C:\HPCHEM\1\DATA\013004H1\017F1001.D	01/30/04
08	BH89-0805-SW2FD	D276507FD	C:\HPCHEM\1\DATA\013004H1\018F1101.D	01/30/04
09	BM37-0846-S1	D276508	C:\HPCHEM\1\DATA\013004H1\019F1201.D	01/30/04
10	BM37-0847-S1	D276509	C:\HPCHEM\1\DATA\013004H1\026F2001.D	01/30/04
11	BM37-0848-S1	D276510	C:\HPCHEM\1\DATA\013004H1\027F2101.D	01/30/04
12	BM37-0849-S1	D276511	C:\HPCHEM\1\DATA\013004H1\028F2201.D	01/30/04
13	BM37-0849-S1FD	D276512FD	C:\HPCHEM\1\DATA\013004H1\029F2301.D	01/30/04
14				
15				
16				
17				
18				
19				
20				
21				
22				

Comments:

6

ORGANICS INITIAL CALIBRATION

Lab Name: CH2M HILL/LAB/CVO
Lab Code: CVO
Case No.: D2765
SAS No.: D2765
Contract #: 920594.OTC
SDG No.: D2765
Instrument ID: GC-H
Calibration Date(s): 01/27/2004
Initial Calibration ID: A600127A
Calibration Time(s): 16:22-19:05

	AR1016/AR1260 Calib.	Lab File ID:
Std 1:	LEVEL 1 1016 (01/27)	005F0201.D
Std 2:	LEVEL 2 1016 (01/27)	006F0301.D
Std 3:	LEVEL 3 1016 (01/27)	007F0401.D
Std 4:	LEVEL 4 1016 (01/27)	008F0501.D
Std 5:	LEVEL 5 1016 (01/27)	009F0601.D
Std 6:	LEVEL 6 1016 (01/27)	010F0701.D
Std 7:		

Individual PCB Calib.	Lab File ID:

GC Column: DB1701
Concentration Units: ng/ml

Analyte	STD 1	RF 1	STD 2	RF 2	STD 3	RF 3	STD 4	RF 4	STD 5	RF 5	STD 6	RF 6	STD 7	RF 7
PCB-1016 (Peak 1)	50	0.060817	100	0.076580	250	0.053943	500	0.053470	750	0.054572	1000	0.064371		
PCB-1016 (Peak 2)	50	0.027517	100	0.033145	250	0.020765	500	0.019537	750	0.019139	1000	0.022327		
PCB-1016 (Peak 3)	50	0.042057	100	0.059342	250	0.046758	500	0.044977	750	0.044808	1000	0.052879		
PCB-1016 (Peak 4)	50	0.049953	100	0.062726	250	0.045604	500	0.045391	750	0.045374	1000	0.050947		
PCB-1016 (Peak 5)	50	0.050560	100	0.059952	250	0.050390	500	0.052180	750	0.052461	1000	0.056132		
PCB-1260 (Peak 1)	50	0.028646	100	0.033594	250	0.027346	500	0.029011	750	0.029633	1000	0.032929		
PCB-1260 (Peak 2)	50	0.054528	100	0.063259	250	0.049395	500	0.051115	750	0.050646	1000	0.057564		
PCB-1260 (Peak 3)	50	0.015922	100	0.018073	250	0.013809	500	0.014543	750	0.014358	1000	0.016559		
PCB-1260 (Peak 4)	50	0.024188	100	0.028739	250	0.022768	500	0.023184	750	0.022392	1000	0.025963		
PCB-1260 (Peak 5)	50	0.068010	100	0.081900	250	0.061622	500	0.062260	750	0.059891	1000	0.071678		
Decachlorobiphenyl	10.0	0.001500	20	0.001798	50	0.001489	100	0.001633	150	0.001640	200	0.001973		

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ORGANICS INITIAL CALIBRATION

Lab Name: CH2M HILL/LAB/CVO
Lab Code: CVO
Case No.: D2765
SAS No.: D2765
Contract #: 920594.OTC
SDG No.: D2765
Instrument ID: GC-H
Calibration Date(s): 01/27/2004
Initial Calibration ID: A600127A
Calibration Time(s): 16:22-19:05

	AR1016/AR1260 Calib.	Lab File ID:
Std 1:	LEVEL 1 1016 (01/27)	005F0201.D
Std 2:	LEVEL 2 1016 (01/27)	006F0301.D
Std 3:	LEVEL 3 1016 (01/27)	007F0401.D
Std 4:	LEVEL 4 1016 (01/27)	008F0501.D
Std 5:	LEVEL 5 1016 (01/27)	009F0601.D
Std 6:	LEVEL 6 1016 (01/27)	010F0701.D
Std 7:		

Individual PCB Calib.	Lab File ID:

GC Column: DB1701
Concentration Units: ng/ml

Analyte	Curve Fit	Avg. RRF	% RSD	Mean % RSD	R or COD	Q
PCB-1016 (Peak 1)	Quadratic	0.060625	14.8		0.99003	
PCB-1016 (Peak 2)	Quadratic	0.023738	23.3		0.99216	
PCB-1016 (Peak 3)	Quadratic	0.048470	13.3		0.99126	
PCB-1016 (Peak 4)	Quadratic	0.049999	13.4		0.99528	
PCB-1016 (Peak 5)	Quadratic	0.053612	7.0		0.99831	
PCB-1260 (Peak 1)	Quadratic	0.030193	8.3		0.99566	
PCB-1260 (Peak 2)	Quadratic	0.054418	9.7		0.99466	
PCB-1260 (Peak 3)	Quadratic	0.015544	10.4		0.99336	
PCB-1260 (Peak 4)	Quadratic	0.024539	9.9		0.99359	
PCB-1260 (Peak 5)	Quadratic	0.067560	12.3		0.99045	
Decachlorobiphenyl (SS)	Quadratic	0.001672	11.1		0.98860	

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ORGANICS INITIAL CALIBRATION

Lab Name: CH2M HILL/LAB/CVO
Lab Code: CVO Case No.: D2765 SAS No.: D2765 SDG No.: D2765
Instrument ID: GC-H
Initial Calibration ID: A600127A
Contract #: 920594.OTC
Calibration Date(s): 01/27/2004-01/28/20(
Calibration Time(s): 21:47-02:38

	AR1016/AR1260 Calib.	Lab File ID:
Std 1:		
Std 2:		
Std 3:		
Std 4:		
Std 5:		
Std 6:		

	Individual PCB Calib.	Lab File ID:
Std 1:	AROCLOR 1221 (01/27)	019F1601.D
Std 1:	AROCLOR 1232 (01/27)	020F1701.D
Std 1:	AROCLOR 1242 (01/27)	021F1801.D
Std 1:	AROCLOR 1248 (01/27)	022F1901.D
Std 1:	AROCLOR 1254 (01/27)	014F1101.D
Std 1:	AROCLOR 1262 (11/21)	023F2101.D
Std 1:	AROCLOR 1268 (11/21)	024F2201.D

GC Column: DB1701 Concentration Units: ng/ml

Analyte	STD 1	RF 1	STD 2	RF 2	STD 3	RF 3	STD 4	RF 4	STD 5	RF 5	STD 6	RF6	STD 7	RF 7
PCB-1221 (Peak 1)	250	0.073176												
PCB-1221 (Peak 2)	250	0.191190												
PCB-1221 (Peak 3)	250	0.119063												
PCB-1221 (Peak 4)	250	0.088038												
PCB-1221 (Peak 5)	250	0.038046												
PCB-1232 (Peak 1)	250	0.096049												
PCB-1232 (Peak 2)	250	0.048954												
PCB-1232 (Peak 3)	250	0.126308												
PCB-1232 (Peak 4)	250	0.061638												
PCB-1232 (Peak 5)	250	0.117375												
PCB-1242 (Peak 1)	250	0.115475												
PCB-1242 (Peak 2)	250	0.074574												
PCB-1242 (Peak 3)	250	0.070921												
PCB-1242 (Peak 4)	250	0.141834												
PCB-1242 (Peak 5)	250	0.069689												
PCB-1248 (Peak 1)	250	0.046705												
PCB-1248 (Peak 2)	250	0.037536												
PCB-1248 (Peak 3)	250	0.038702												
PCB-1248 (Peak 4)	250	0.067479												
PCB-1248 (Peak 5)	250	0.116115												
PCB-1254 (Peak 1)	250	0.054939												
PCB-1254 (Peak 2)	250	0.064605												
PCB-1254 (Peak 3)	250	0.041420												
PCB-1254 (Peak 4)	250	0.034845												
PCB-1254 (Peak 5)	250	0.072835												
PCB-1262 (Peak 1)	250	0.031704												
PCB-1262 (Peak 2)	250	0.031404												
PCB-1262 (Peak 3)	250	0.022562												
PCB-1262 (Peak 4)	250	0.025969												
PCB-1262 (Peak 5)	250	0.014605												
PCB-1268 (Peak 1)	250	0.098739												
PCB-1268 (Peak 2)	250	0.021761												
PCB-1268 (Peak 3)	250	0.023721												
PCB-1268 (Peak 4)	250	0.023286												
PCB-1268 (Peak 5)	250	0.010665												

ORGANICS INITIAL CALIBRATION

Lab Name: CH2M HILL/LAB/CVO
Lab Code: CVO Case No.: D2765 SAS No.: D2765 SDG No.: D2765
Instrument ID: GC-H Calibration Date(s): 01/27/2004-01/28/20(
Initial Calibration ID: A600127A Calibration Time(s): 21:47-02:38
Contract #: 920594.OTC

	AR1016/AR1260 Calib.	Lab File ID:
Std 1:		
Std 2:		
Std 3:		
Std 4:		
Std 5:		
Std 6:		

	Individual PCB Calib.	Lab File ID:
Std 1:	AROCLOR 1221 (01/27)	019F1601.D
Std 1:	AROCLOR 1232 (01/27)	020F1701.D
Std 1:	AROCLOR 1242 (01/27)	021F1801.D
Std 1:	AROCLOR 1248 (01/27)	022F1901.D
Std 1:	AROCLOR 1254 (01/27)	014F1101.D
Std 1:	AROCLOR 1262 (11/21)	023F2101.D
Std 1:	AROCLOR 1268 (11/21)	024F2201.D

GC Column: DB1701 Concentration Units: ng/ml

Analyte	Curve Fit	Avg. RRF	% RSD	Mean % RSD	R or COD	Q
PCB-1221 (Peak 1)	Single Pt	0.073176				
PCB-1221 (Peak 2)	Single Pt	0.191190				
PCB-1221 (Peak 3)	Single Pt	0.119063				
PCB-1221 (Peak 4)	Single Pt	0.088038				
PCB-1221 (Peak 5)	Single Pt	0.038046				
PCB-1232 (Peak 1)	Single Pt	0.096049				
PCB-1232 (Peak 2)	Single Pt	0.048954				
PCB-1232 (Peak 3)	Single Pt	0.126308				
PCB-1232 (Peak 4)	Single Pt	0.061638				
PCB-1232 (Peak 5)	Single Pt	0.117375				
PCB-1242 (Peak 1)	Single Pt	0.115475				
PCB-1242 (Peak 2)	Single Pt	0.074574				
PCB-1242 (Peak 3)	Single Pt	0.070921				
PCB-1242 (Peak 4)	Single Pt	0.141834				
PCB-1242 (Peak 5)	Single Pt	0.069689				
PCB-1248 (Peak 1)	Single Pt	0.046705				
PCB-1248 (Peak 2)	Single Pt	0.037536				
PCB-1248 (Peak 3)	Single Pt	0.038702				
PCB-1248 (Peak 4)	Single Pt	0.067479				
PCB-1248 (Peak 5)	Single Pt	0.116115				
PCB-1254 (Peak 1)	Single Pt	0.054939				
PCB-1254 (Peak 2)	Single Pt	0.064605				
PCB-1254 (Peak 3)	Single Pt	0.041420				
PCB-1254 (Peak 4)	Single Pt	0.034845				
PCB-1254 (Peak 5)	Single Pt	0.072835				
PCB-1262 (Peak 1)	Single Pt	0.031704				
PCB-1262 (Peak 2)	Single Pt	0.031404				
PCB-1262 (Peak 3)	Single Pt	0.022562				
PCB-1262 (Peak 4)	Single Pt	0.025969				
PCB-1262 (Peak 5)	Single Pt	0.014605				
PCB-1268 (Peak 1)	Single Pt	0.098739				
PCB-1268 (Peak 2)	Single Pt	0.021761				
PCB-1268 (Peak 3)	Single Pt	0.023721				
PCB-1268 (Peak 4)	Single Pt	0.023286				
PCB-1268 (Peak 5)	Single Pt	0.010665				

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ORGANICS INITIAL CALIBRATION

Lab Name: CH2M HILL/LAB/CVO
Lab Code: CVO
Instrument ID: GC-H
Initial Calibration ID: A420129A

Case No.: D2765

SAS No.: D2765

Contract #: 920594.OTC
SDG No.: D2765
Calibration Date(s): 01/29/2004
Calibration Time(s): 14:41-17:23

	AR1254 Calib.	Lab File ID:
Std 1:	LEVEL 1 1242 (01/29)	002F0201.D
Std 2:	LEVEL 2 1242 (01/29)	003F0301.D
Std 3:	LEVEL 3 1242 (01/29)	004F0401.D
Std 4:	LEVEL 4 1242 (01/29)	005F0501.D
Std 5:	LEVEL 5 1242 (01/29)	006F0601.D
Std 6:	LEVEL 6 1242 (01/29)	007F0701.D
Std 7:		

Individual PCB Calib.	Lab File ID:

GC Column: DB1701

Concentration Units: ng/ml

Analyte	STD 1	RF 1	STD 2	RF 2	STD 3	RF 3	STD 4	RF 4	STD 5	RF 5	STD 6	RF 6	STD 7	RF 7
PCB-1242 (Peak 1)	50	0.131290	100	0.113249	250	0.117502	500	0.112872	750	0.105303	1000	0.107587		
PCB-1242 (Peak 2)	50	0.078276	100	0.071518	250	0.076230	500	0.075378	750	0.072439	1000	0.074491		
PCB-1242 (Peak 3)	50	0.046643	100	0.047853	250	0.063149	500	0.063887	750	0.060158	1000	0.060236		
PCB-1242 (Peak 4)	50	0.185930	100	0.138385	250	0.149892	500	0.136055	750	0.121746	1000	0.122777		
PCB-1242 (Peak 5)	50	0.080320	100	0.063777	250	0.070914	500	0.064748	750	0.058361	1000	0.060356		

ORGANICS INITIAL CALIBRATION

Lab Name: CH2M HILL/LAB/CVO
Lab Code: CVO
Case No.: D2765
SAS No.: D2765
Contract #: 920594.OTC
SDG No.: D2765
Instrument ID: GC-H
Calibration Date(s): 01/29/2004
Initial Calibration ID: A420129A
Calibration Time(s): 14:41-17:23

	AR1254 Calib.	Lab File ID:
Std 1:	LEVEL 1 1242 (01/29)	002F0201.D
Std 2:	LEVEL 2 1242 (01/29)	003F0301.D
Std 3:	LEVEL 3 1242 (01/29)	004F0401.D
Std 4:	LEVEL 4 1242 (01/29)	005F0501.D
Std 5:	LEVEL 5 1242 (01/29)	006F0601.D
Std 6:	LEVEL 6 1242 (01/29)	007F0701.D
Std 7:		

Individual PCB Calib.	Lab File ID:

GC Column: DB1701
Concentration Units: ng/ml

Analyte	Curve Fit	Avg. RRF	% RSD	Mean % RSD	R or COD	Q
PCB-1242 (Peak 1)	Quadratic	0.114634	8.1		0.99944	
PCB-1242 (Peak 2)	Quadratic	0.074722	3.3		0.99969	
PCB-1242 (Peak 3)	Quadratic	0.056988	13.5		0.99886	
PCB-1242 (Peak 4)	Quadratic	0.142464	16.7		0.99856	
PCB-1242 (Peak 5)	Quadratic	0.066413	12.1		0.99857	

7A

ORGANICS CALIBRATION VERIFICATION SUMMARY

Lab Name: CH2M HILL/LAB/CVO
Contract #: 920594.OTC
Lab Code: CVO
Case No.: D2765
SAS No.: D2765
SDG No.: D2765
Instrument ID: GC-H
Calibration Date(s): 01/27/2004
Initial Calibration ID: A600127A
Calibration Time(s): 16:22-19:05
ICV ID: ICV1-0127
CCV #1 ID:
CCV #2 ID:

GC Column: DB1701
Concentration Units: ng/ml

Analyte	ICV			CCV #1			CCV #2			Q
	Expected	Found	% D	Expected	Found	% D	Expected	Found	% D	
PCB-1016	250	223	-11							
PCB-1260	250	242	-3.3							
Decachlorobiphenyl	50.0	49.1	-1.9							

Comments:

7A

ORGANICS CALIBRATION VERIFICATION SUMMARY

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2765 SAS No.: D2765 SDG No.: D2765

Instrument ID: GC-H Calibration Date(s): 01/29/2004

Initial Calibration ID: A420129A Calibration Time(s): 14:41-17:23

ICV ID: ICV1-0129 CCV #1 ID: CCV #2 ID:

GC Column: DB1701 Concentration Units: ng/ml

Analyte	ICV			CCV #1			CCV #2			Q
	Expected	Found	% D	Expected	Found	% D	Expected	Found	% D	
PCB-1242	250	227	-9.4							
Decachlorobiphenyl	50.0	48.6	-2.8							

Comments:

7A

ORGANICS CALIBRATION VERIFICATION SUMMARY

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2765 SAS No.: D2765 SDG No.: D2765

Instrument ID: GC-H Calibration Date(s): 01/29/2004

Initial Calibration ID: A420129A Calibration Time(s): 14:41-17:23

ICV ID: CV1-0130 CCV #1 ID: CV3-0130 CCV #2 ID:

GC Column: DB1701 Concentration Units: ng/ml

Analyte	ICV			CCV #1			CCV #2			Q
	Expected	Found	% D	Expected	Found	% D	Expected	Found	% D	
PCB-1242	250	243	-2.8	250	213	-15				
Decachlorobiphenyl	50.0	53.8	7.7	50.0	45.5	-9.0				

Comments:

7A

ORGANICS CALIBRATION VERIFICATION SUMMARY

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2765 SAS No.: D2765 SDG No.: D2765

Instrument ID: GC-H Calibration Date(s): 01/27/2004

Initial Calibration ID: A600127A Calibration Time(s): 16:22-19:05

ICV ID: CV2-0130 CCV #1 ID: CV4-0130 CCV #2 ID: CV6-0130

GC Column: DB1701 Concentration Units: ng/ml

Analyte	ICV			CCV #1			CCV #2			Q
	Expected	Found	% D	Expected	Found	% D	Expected	Found	% D	
PCB-1016	250	228	-8.7	250	220	-12	250	233	-6.8	
PCB-1260	250	246	-1.6	250	248	-0.7	250	252	0.6	
Decachlorobiphenyl	50.0	52.7	5.5	50.0	57.0	14	50.0	58.3	17	

Comments:

8

ORGANICS ANALYTICAL SEQUENCE

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2765 SAS No.: D2765 SDG No.: D2765

GC Column: DB1701 / DB5MS Start Date: 01/27/04 End Date: 01/28/04

Instrument ID: GC-H Start Time: 16:22 End Time: 02:38

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
01	LEVEL 1 1016 (01/27)	LEVEL 1 1016 (01/27)	C:\HPCHEM\1\DATA\012704H1\005F0201.D	01/27/04	16:22
02	LEVEL 2 1016 (01/27)	LEVEL 2 1016 (01/27)	C:\HPCHEM\1\DATA\012704H1\006F0301.D	01/27/04	16:55
03	LEVEL 3 1016 (01/27)	LEVEL 3 1016 (01/27)	C:\HPCHEM\1\DATA\012704H1\007F0401.D	01/27/04	17:28
04	LEVEL 4 1016 (01/27)	LEVEL 4 1016 (01/27)	C:\HPCHEM\1\DATA\012704H1\008F0501.D	01/27/04	18:00
05	LEVEL 5 1016 (01/27)	LEVEL 5 1016 (01/27)	C:\HPCHEM\1\DATA\012704H1\009F0601.D	01/27/04	18:32
06	LEVEL 6 1016 (01/27)	LEVEL 6 1016 (01/27)	C:\HPCHEM\1\DATA\012704H1\010F0701.D	01/27/04	19:05
07	ICV1-0127	ICV1-0127	C:\HPCHEM\1\DATA\012704H1\011F0801.D	01/27/04	19:37
08	LEVEL 3 1254 (01/27)	LEVEL 3 1254 (01/27)	C:\HPCHEM\1\DATA\012704H1\014F1101.D	01/27/04	21:47
09	AROCLOR 1221 (01/27)	AROCLOR 1221 (01/27)	C:\HPCHEM\1\DATA\012704H1\019F1601.D	01/28/04	01:01
10	AROCLOR 1232 (01/27)	AROCLOR 1232 (01/27)	C:\HPCHEM\1\DATA\012704H1\020F1701.D	01/28/04	01:33
11	AROCLOR 1242 (01/27)	AROCLOR 1242 (01/27)	C:\HPCHEM\1\DATA\012704H1\021F1801.D	01/28/04	02:06
12	AROCLOR 1248 (01/27)	AROCLOR 1248 (01/27)	C:\HPCHEM\1\DATA\012704H1\022F1901.D	01/28/04	02:38
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Comments:

8

ORGANICS ANALYTICAL SEQUENCE

Lab Name: CH2M HILL/LAB/CVO — Contract #: 920594.OTC

Lab Code: CVO — Case No.: D2765 — SAS No.: D2765 — SDG No.: D2765

GC Column: DB1701 / DB5MS — Start Date: 01/29/04 — End Date: 01/29/04

Instrument ID: GC-H — Start Time: 14:41 — End Time: 17:56

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
01	LEVEL 1 1242 (01/29)	LEVEL 1 1242 (01/29)	C:\HPCHEM\1\DATA\012904H1\002F0201.D	01/29/04	14:41
02	LEVEL 2 1242 (01/29)	LEVEL 2 1242 (01/29)	C:\HPCHEM\1\DATA\012904H1\003F0301.D	01/29/04	15:14
03	LEVEL 3 1242 (01/29)	LEVEL 3 1242 (01/29)	C:\HPCHEM\1\DATA\012904H1\004F0401.D	01/29/04	15:46
04	LEVEL 4 1242 (01/29)	LEVEL 4 1242 (01/29)	C:\HPCHEM\1\DATA\012904H1\005F0501.D	01/29/04	16:18
05	LEVEL 5 1242 (01/29)	LEVEL 5 1242 (01/29)	C:\HPCHEM\1\DATA\012904H1\006F0601.D	01/29/04	16:51
06	LEVEL 6 1242 (01/29)	LEVEL 6 1242 (01/29)	C:\HPCHEM\1\DATA\012904H1\007F0701.D	01/29/04	17:23
07	ICV1-0129	ICV1-0129	C:\HPCHEM\1\DATA\012904H1\008F0801.D	01/29/04	17:56
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Comments:

8

ORGANICS ANALYTICAL SEQUENCE

Lab Name: CH2M HILL/LAB/CVO Contract #: 920594.OTC

Lab Code: CVO Case No.: D2765 SAS No.: D2765 SDG No.: D2765

GC Column: DB1701 / DB5MS Start Date: 01/30/04 End Date: 01/31/04

Instrument ID: GC-H Start Time: 08:52 End Time: 00:37

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
01	CV1-0130	CV1-0130	C:\HPCHEM\1\DATA\013004H1\008F0102.D	01/30/04	08:52
02	CV2-0130	CV2-0130	C:\HPCHEM\1\DATA\013004H1\009F0201.D	01/30/04	09:25
03	SB1-0127	SB1-0127	C:\HPCHEM\1\DATA\013004H1\010F0301.D	01/30/04	10:29
04	BS1S0127	BS1S0127	C:\HPCHEM\1\DATA\013004H1\011F0401.D	01/30/04	11:02
05	B84-0802-S1.5	D276501	C:\HPCHEM\1\DATA\013004H1\013F0601.D	01/30/04	12:07
06	BH89-0804-S3.5	D276505	C:\HPCHEM\1\DATA\013004H1\016F0901.D	01/30/04	13:44
07	BH89-0805-SW2FD	D276507FD	C:\HPCHEM\1\DATA\013004H1\018F1101.D	01/30/04	14:48
08	BM37-0846-S1	D276508	C:\HPCHEM\1\DATA\013004H1\019F1201.D	01/30/04	15:21
09	CV3-0130	CV3-0130	C:\HPCHEM\1\DATA\013004H1\020F1402.D	01/30/04	17:01
10	CV4-0130	CV4-0130	C:\HPCHEM\1\DATA\013004H1\021F1501.D	01/30/04	17:33
11	BH83-0834-S0	D276502	C:\HPCHEM\1\DATA\013004H1\023F1701.D	01/30/04	19:43
12	BH83-0836-S0	D276503	C:\HPCHEM\1\DATA\013004H1\024F1801.D	01/30/04	20:15
13	BH89-0803-S3.5	D276504	C:\HPCHEM\1\DATA\013004H1\025F1901.D	01/30/04	20:47
14	BM37-0847-S1	D276509	C:\HPCHEM\1\DATA\013004H1\026F2001.D	01/30/04	21:20
15	BM37-0848-S1	D276510	C:\HPCHEM\1\DATA\013004H1\027F2101.D	01/30/04	21:52
16	BM37-0849-S1	D276511	C:\HPCHEM\1\DATA\013004H1\028F2201.D	01/30/04	22:24
17	BM37-0849-S1FD	D276512FD	C:\HPCHEM\1\DATA\013004H1\029F2301.D	01/30/04	22:57
18	CV6-0130	CV6-0130	C:\HPCHEM\1\DATA\013004H1\031F2601.D	01/31/04	00:37
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33					

Comments:

CH2MHILL
Applied Sciences Group

February 02, 2004

CH2M HILL *Page 2 of 2*
Applied Sciences Group
2300 NW Walnut Blvd
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

MDL Replicate Information

Method:	Extraction Method:	Matrix:	Units	Instrument:
SW8082	SW3550	SOIL	UG/KG	GCH

Comment:

CAS_NO	PARAMETER	MDL Date	MDL	R1	R2	R3	R4	R5	R6	R7	R8	Mean	Std.Dev.	Spike Lev.
12674-11-2	Aroclor-1016	02/17/2003	0.19	2.745	2.727	2.647	2.839	2.72	2.705	2.662	2.64	2.71	0.06486235	0.5
11104-28-2	Aroclor-1221	02/17/2003	0.48	1.012	1.34	1.103	1.104	1.452	1.332	1.38	1.336	1.26	0.15993653	0.5
11141-16-5	Aroclor-1232	02/17/2003	0.34	0.999	1.092	1.222	0.818	1.017	1.045	1.03	1.067	1.04	0.11216282	0.5
53469-21-9	Aroclor-1242	02/17/2003	0.42	0.83	0.721	0.955	0.912	0.92	1.171	1.068	0.834	0.93	0.14190835	0.5
12672-29-6	Aroclor-1248	02/17/2003	0.44	1.666	1.566	1.324	1.514	1.28	1.456	1.634	1.646	1.51	0.14724493	0.5
11097-69-1	Aroclor-1254	02/17/2003	0.38	1.005	0.993	1.047	1.005	0.793	0.817	0.908	0.699	0.91	0.12566956	0.5
11096-82-5	Aroclor-1260	02/17/2003	0.49	2.094	2.229	2.172	2.062	2.564	2.122	2.217	2.337	2.22	0.16243322	0.5

CHAIN OF CUSTODY/SHIPPING DOCUMENTS

D2105

Chain of Custody Record

COC Number: CHMC-067

CH2MHILL

Project Name Mare Island **Location** Mare Island
Task Order 19.07 **Project** PCB Removal Actions
Project Number 264204.19.07
Project Manager Carla Duncan
Sample Manager Mike Godwin (707) 562-1015
Turnaround Time 3 Days

Sample ID	Sample Date/Time	Type	Matrix	# Containers	Preserv	D2216	SW8082	
B84-0802-S1.5	23-Jan-04 13:30	N	Soil					
3 pt composite, soil below conc			Field Filtered ☐	1	4'C	☑	☑	1
			Total Containers:	1				
BH83-0834-S0	23-Jan-04 13:50	N	Soil					
			Field Filtered ☐	1	4'C	☑	☑	2
			Total Containers:	1				
BH83-0836-S0	23-Jan-04 14:00	N	Soil					
			Field Filtered ☐	1	4'C	☑	☑	3
			Total Containers:	1				
BH89-0803-S3.5	23-Jan-04 15:00	N	Soil					
			Field Filtered ☐	1	4'C	☑	☑	4
			Total Containers:	1				
BH89-0804-S3.5	23-Jan-04 15:05	N	Soil					
			Field Filtered ☐	1	4'C	☑	☑	5
			Total Containers:	1				

	Signatures	Date/Time
Approved by		
Sampled by		
Relinquished by	[signature]	1/24/04 1440
Received by	[signature]	1/26/04 10:20
Relinquished by		
Received by		

Shipping Details
Method of Shipment: FedEx
Airbill No: 790037990545
Dat Name: CH2M Hill Applied Sciences Laborator
Lab Phone: (541) 752-4271

ATTN:
Sample Custody
and
Kathy McKinley

Special Instructions:
Report Copy to
Dan Moore
(530) 339-3405

D2705

Chain of Custody Record

COC Number: CHMC-067

CH2MHILL

Project Name Mare Island **Location** Mare Island
Task Order 19.07 **Project** PCB Removal Actions
Project Number 264204.19.07
Project Manager Carla Duncan
Sample Manager Mike Godwin (707) 562-1015
Turnaround Time 3 Days

Sample ID	Sample Date/Time	Type	Matrix	# Containers	Preserv	D2216	SW8082																				
BH89-0805-SW2	23-Jan-04 15:10	N	Soil																								
			Field Filtered ☐	1	4'C	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	6
			Total Containers:	1																							
BH89-0805-SW2FD	23-Jan-04 15:10	N	Soil																								
~~BH89-0805-SW2~~			Field Filtered ☐	1	4'C	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	7
			Total Containers:	1																							
BM37-0846-S1	23-Jan-04 15:25	N	Soil																								
			Field Filtered ☐	1	4'C	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	8
			Total Containers:	1																							
BM37-0847-S1	23-Jan-04 15:27	N	Soil																								
			Field Filtered ☐	1	4'C	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	9
			Total Containers:	1																							
BM37-0848-S1	23-Jan-04 15:30	N	Soil																								
			Field Filtered ☐	1	4'C	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	10
			Total Containers:	1																							

	Signatures	Date/Time
Approved by		
Sampled by		
Relinquished by		1/26/04 1440
Received by		1/27/04 1080
Relinquished by		
Received by		

Shipping Details
Method of Shipment: FedEx
Airbill No: 790037990545
Lab Name: CH2M Hill Applied Sciences Laboratory
Lab Phone: (541) 752-4271

ATTN:
Sample Custody
and
Kathy McKinley

Special Instructions:
Report Copy to
Dan Moore
(530) 339-3405

D2165

Chain of Custody Record

COC Number: **CHMC-067**

CH2MHILL

Project Name Mare Island **Location** Mare Island
Task Order 19.07 **Project** PCB Removal Actions
Project Number 264204.19.07
Project Manager Carla Duncan
Sample Manager Mike Godwin (707) 562-1015
Turnaround Time 3 Days

Sample ID	Sample Date/Time	Type	Matrix	# Containers	Preserv	D2216	SW8082																			
BM37-0849-S1	23-Jan-04 15:35	N	Soil																							
			Field Filtered ☐	1	4'C	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑ 11
			Total Containers:		1																					
BM37-0849-S1FD	23-Jan-04 15:35	N	Soil																							
			Field Filtered ☐	1	4'C	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑ 12
			Total Containers:		1																					

	Signatures	Date/Time
Approved by		
Sampled by		
Relinquished by		1/26/04 1440
Received by		1/26/04 1440
Relinquished by		
Received by		

Shipping Details
Method of Shipment: FedEx
Airbill No: 790037990545
Lab Name: CH2M Hill Applied Sciences Laborator
Lab Phone: (541) 752-4271

ATTN:
Sample Custody
and
Kathy McKinley

Special Instructions:
Report Copy to
Dan Moore
(530) 339-3405

CH2MHILL
Analytical Services

Sample Receipt Record

Batch Number: D2765 Date received: 1/27/04

Client/Project Mare Island

VERIFICATION OF SAMPLE CONDITIONS (verify all items) * HD = Client Hand delivered Samples

Observation	YES	NO
Radiological Screening for AFCEE		✓
Were custody seals intact and on the outside of the cooler?	✓	
If yes, Where? Front ✓ Rear ✓ Lt Side ____ Rt Side ____		
Type of packing material (Ice) Blue Ice Bubble wrap	✓	
Was the Chain of Custody inside the cooler?	✓	
Was the Chain of Custody properly filled out?	✓	
Were the sample containers in good condition?	✓	
Containers supplied by ASL?	✓	
Was there ice in the cooler? Enter temp. 3 C	✓	
All VOCs free of air bubbles ? NA		

If the answer to any of the questions above is NO, a Sample Receipt Exceptions Report Must be written.

VERIFICATION OF SAMPLE PRESERVATION (verify all preserved samples except HAAs, HANs and CH)

Sample No	Nutrients pH <2	Metals pH <2	Volatiles pH <2	Cyanides pH >12	TOC pH <2	TOX pH <2	Other (specify)	N/A (soils/unpres)
1								↓
2								
3								
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LOGIN AND pH VERIFICATIONS PERFORMED BY

Dayna Laumann 1/27/04

Date/Time Date/Time

Appendix C
Waste Manifest for Building 84 AL#01

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1
NOT REQUIRED		

3. Generator's Name and Mailing Address
Lennar Mare Island LLC
900 Walnut Avenue
Vallejo, CA 94592

4. Generator's Phone (707) 562-1015

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone

7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone

9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Altamont Landfill 10840 Altamont Pass Road Livermore, CA 94952	NOT REQUIRED	(925)449-6349

11. Waste Shipping Name and Description	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous Soil 4-Concrete	001	DT	00018	T
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above	E. Handling Codes for Wastes Listed Above
Concrete w/ Trace PCB's Approval #: a) ~~55203000~~ 55229100	

15. Special Handling Instructions and Additional Information

Wear Appropriate Clothing When Handling Material
24 Hr. Emergency #: 1-800-424-9300 (WMI Contract)

Site Address: B. 84 Concrete
~~UST~~ Sites
Mare Island

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Lorenzo M. Lujan		02	04	04

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
		02	04	04

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR'S COPY

12-BLC-M6